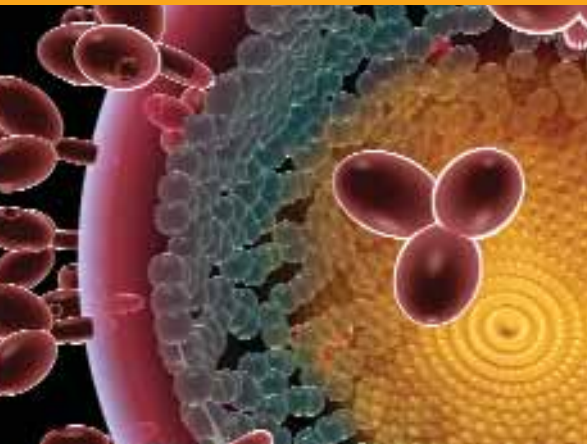


Risk Insights®



Contents

Evidence-based Underwriting: The Example of Multiple Sclerosis	2
Highlights from Gen Re's Dread Disease Survey 2000-2004	6
Non-disclosure in the UK – ABI Guidelines	12
Does Total Line Equal the Sum of All Financial Formulas?	16
HIV/AIDS Products – A Tale of Two Worlds	21
Inside Gen Re LifeHealth	25

Risk Insights is available online. View and download all issues via the Internet in a searchable format. Also available is a PDF of our *Risk Insights Index*, listing the topics and article titles produced from 1997-2006.

Select "Publications" from the Gen Re homepage at www.genrelifehealth.com. Please stop by soon.

Letter from the Editor

Dear Readers,

It seems like the new format of including articles from all of the insurance disciplines has been well received. Thank you to all the people who gave us feedback.

In this edition we begin with an article from Germany on how evidence-based underwriting and research can be used to refine the loadings for Multiple Sclerosis. This is hopefully our first in a series of evidence-based underwriting articles, as this is an issue on which Gen Re is very focussed. We then follow up from Asia with a summary of Gen Re's latest Dread Disease Survey. The full survey will be out shortly, and we recommend that anyone who has an interest in Dread Disease get a copy of the survey for detailed reading. From the UK we have a claims article that discusses the new Association of British Insurers' guidelines on non-disclosure, clarifying when a claim can be declined and when it can't. It is clear that more partial claims will be paid in the future

in Britain, and it is interesting to speculate whether this is a trend that will follow in the rest of the world. Our next article is from the US on financial underwriting. In many markets there seems to be increasing pressure to offer higher and higher sums insured, and this article sets out a systematic approach that underwriters should follow to ensure that they offer suitable, and consistent, cover. Lastly we have an article from South Africa and Germany on how two different markets have allowed for the insurance of HIV-positive lives. This is something that is particularly important to the South African insurance industry, and we believe that we have developed products which could easily be exported to other countries.

As you hopefully know by now, the editorial team would like to encourage feedback on this publication, both positive and negative. We look forward to hearing from you.

Paul Lewis
Editor-in-Chief
Gen Re LifeHealth, Cape Town



Dr. Robert Ostermann-Myrau
Senior Medical Director
Gen Re LifeHealth, Germany
robert.ostermann-myrau@genre.com

Evidence-based Underwriting: The Example of Multiple Sclerosis

Multiple sclerosis (previously called disseminated sclerosis) is a relatively difficult disease to assess in underwriting practice. This is due primarily to the widely varied individual progression of the disease, as well as the sometimes difficult diagnosis. A further difficulty is the definition of multiple sclerosis, as this requires both clinical neurological findings plus the corresponding changes on MRI of the brain. If this is not the case, a second clinical episode is required for confirmation of the diagnosis. This gives rise to the peculiar situation whereby, even with a relatively clear initial clinical presentation, the diagnosis cannot always be established on the first episode.

Under no circumstances, however, would it be recommended from an underwriting perspective to assume normality at this stage. Since the condition is not that rare, we have chosen multiple sclerosis as one of the diseases of interest from the underwriting and actuarial viewpoint. In this article we wish to present it as an example against the background of the demand for “evidence-based ratings” or “evidence-based underwriting.”

The disease itself

Multiple sclerosis (MS) is a chronic inflammatory disease that results in demyelination of the nerve tissue in the central nervous system, that is, the brain and spinal cord. It predominantly affects the neurons and hence the information-carrying cells of the brain and spinal cord. These cells are surrounded by a sheath containing myelin (which may be understood as a sort of insulation). In multiple sclerosis these myelin layers are destroyed by inflammation-related effects and thus the ability of the affected nerve cells to conduct an electrical signal is irreversibly destroyed or damaged. As the name “multiple sclerosis” implies, this effect occurs at several or many sites in the brain and, because of the chronic nature of the disease, the symptoms are variable but generally progressive. Motor, sensory and also autonomic nerve pathways are affected.

For the reasons mentioned above, the great variance in symptoms, such as hypaesthesia (hypersensitivity to touch), muscle weakness, muscle spasticity, impairment of standing and walking, impairment of co-ordination and sense of balance, speech, swallowing and visual disorders, bladder and intestinal difficulties, as well as impairments of cognitive function, are entirely comprehensible. Progressive multiple sclerosis will therefore result in constantly increasing impairment of mobility, self-help and quality of life, and, ultimately, death. To document the existing deficits and the severity of the symptoms, the Expanded Disability Status Scale (EDSS) has been developed and will be discussed below. The underlying cause of multiple sclerosis remains unclear, and the current leading theory postulates an auto-immune process.

Forms/Subtypes

The course of MS is difficult to predict, and the disease may at times either lie dormant or progress steadily. Several subtypes, or patterns of progression, have been described. Subtypes use the past course of the disease in an attempt to predict the future course. Since 1996 the following four standardized subtype definitions have been used:

Relapsing-remitting

Relapsing-remitting describes the initial course of 85% to 90% of individuals with MS. This subtype is characterized by unpredictable attacks (relapses) followed by periods of months to years of relative quiet (remission) with no new signs of disease activity. Deficits suffered during the attacks may either resolve or may be permanent.

Secondary progressive

Secondary progressive describes around 80% of those with initial relapsing-remitting MS, who then begin to have neurologic decline between their acute attacks without any definite periods of remission. This decline may include new neurologic symptoms, worsening cognitive function or other deficits. Secondary progressive is the most common type of MS and causes the greatest amount of disability.

Primary progressive

Primary progressive describes the approximately 10% of individuals who never have remission after the initial MS symptoms. Decline occurs continuously without clear attacks. The primary progressive subtype tends to affect people who are older at disease onset.

Progressive relapsing

Progressive relapsing describes those individuals who, from the onset of their MS, have a steady neurologic decline but also suffer superimposed acute attacks. It is the least common of all subtypes.

Epidemiology

In the worldwide distribution of multiple sclerosis, there is an almost complete absence in the vicinity of the equator. The further north and south of the equator one goes, the more common the disease becomes. In Northern Europe, continental North America and Australia about one in every 1,000 inhabitants is affected by multiple sclerosis of some degree of severity. There is a marked predominance in women (ratio of men to women 1:2). The first symptoms usually occur between the ages of 15 and 40, and almost never before the age of 15 or after the age of 60.

EDSS Scale

The Expanded Disability Status Scale (EDSS) is frequently used by neurologists to measure MS dysfunction and is a strong prognostic indicator. Functional System refers to a specific area of neurological functioning. These areas include pyramidal (motor), cerebellar, brainstem, sensory, bowel, bladder, visual and cerebral (cognitive and mood) functions. The Functional System (FS) score determines the EDSS. At EDSS steps 1.0 to 4.5, patients are fully ambulatory, and impairment of ambulation occurs at EDSS stage 6.0 and greater.

0 – 1.0	No disability; minimal symptoms
1.5 – 2.5	Moderate disability in one FS or mild disability in 3 or 4 functional systems; remains fully ambulatory
3.0 – 5.5	Ambulatory without aid or rest for at least 100 metres; disability severe enough to impair full daily activities (may impair ability to work one full day)
6.0	Ambulatory impairment such that a walking stick is needed to walk 100 metres
6.5 – 9.5	Constant bilateral assistance necessary to walk 20 metres or more through inability to perform self-care
10.0	Death due to MS

Please note that the above scale is a contracted version of the full scale which contains considerably more detail.

Source: Lublin FD; Reingold SC. (1996) Defining the clinical course of multiple sclerosis: results of an international survey. National Multiple Sclerosis Society (USA) Advisory Committee on Clinical Trials of New Agents in Multiple Sclerosis. *Neurology* 1996 Apr; 46(4): 907-11.

MS—Evidence-based ratings

Evidence-based rating means a rating based on data obtained from a systematic review of the existing literature. To this end the existing literature applicable to a particular question or disease is reviewed and analysed according to defined criteria



(including primary study objective, number of subjects and observation period). Actuarial calculations then provide an assessment matrix, which may need to be adapted to specific underwriting and risk assessment requirements.

The previously existing assessment system of MS includes only the “relapsing remitting” form. The other forms are not insurable because of the rapid or unpredictable clinical deterioration.

In the studies analysed, very few had information relating to invalidity or incapacity, and these studies were therefore statistically unhelpful. A general problem in the analysis of data on incapacity or invalidity is the very different social systems and disability products in the individual countries. These make a general comparison almost impossible and, in the case of MS in particular, it has not been possible to design large, predictive studies. However, it can be deduced from the usual clinical presentation and disease course that a marked impairment of the capacity for work is highly likely to occur, and some studies reported that 50% of occupationally active patients were no longer capable of employment 10 years after diagnosis.

A suspected diagnosis of MS is also taken into consideration. If there are suspicious results from an MRI scan, or if neurological symptoms indicate possible MS, an extra loading is charged, even if the diagnosis is not yet confirmed. Depending on the duration of the symptom-free interval, the extra loading is higher for a suspected diagnosis of MS after one year of asymptomatic clinical findings than after five years of freedom from symptoms (MS becomes less likely).

Method of evidence-based rating in MS

In order to check the extra loading within this system, we undertook a complete medline analysis with the search terms “multiple sclerosis, disseminated sclerosis”. In the initial search for studies conducted over the past 10 years we found an extensive Danish register with valid and suitable figures. In a subsequent search for studies conducted over the past 20 years, we found and analysed a promising Canadian study.

All texts identified by medline were analysed by scanning the title and the abstracts. Studies of primary interest were fully analysed to check for adequate group size and sufficiently long observation periods as the disease usually progresses slowly.



Ultimately the two above-mentioned studies were chosen from this analysis.

The Danish study recorded all MS patients in the period 1949 to 1996, almost 10,000 people. This extensive data allowed a classification by age, sex and period of first diagnosis. No correlation was found between overall mortality and the EDSS score valid at the time. In terms of prognosis, a continuous improvement was found in life expectancy from decade to decade. The more favourable prognosis of the last decade was taken as a basis for our calculations.

In addition, the Danish register showed an increasing number of suspected MS cases in the last recorded decade. In previous decades the percentage was 15.6%. The subsequent working hypothesis involved the following assumptions:

- For the adjustment, the ratio of 15.6% of suspected cases in the 1980s was now doubled in view of the increasing trend in the 1990s.
- 50% of suspected cases do not develop MS. This corresponds to a standard mortality rate of 1 corresponding to 100% (that is, no loading would be required).

This gave a standard mortality rate of all MS patients, including the 50% cases initially declared as suspected cases, of 2.89.

Table 1 – Results from Danish Study

	Males	Females	Total
MS patients with onset between 1949-1996	3,954	5,927	9,881
Mean age at onset	34.7	34.1	
Increase of mean age at onset between 1949-58 and 1979-88			2.3 years
Death before 1.1.2000	1,980	2,274	4,254
Expected deaths	746	725	
Standard Mortality Ratio			
Total period 1949-1996	2.66	3.14	2.89
1949-1958	4.43	6.46	
1959-1968	3.98	4.82	
1969-1978	2.70	4.05	
1979-1988	2.15	3.08	

Source: H. Boonnum-Hansen, Trends in survival and cause of death in Danish patients with multiple sclerosis, Brain 2004, 127: 844-850.

Although a classification by EDSS score was not possible with these figures, this is desirable and necessary with the different forms and the intrinsic dynamics of the disease.

In our research, the Canadian study was the only study from which a conclusion could be drawn about the various EDSS scores in relation to the standard mortality rate. The overall mortality in the Canadian study was similar to the overall mortality of the Danish register. Hence the Canadian study can be considered credible despite the small number of cases. However, a total of only 115 deaths were evaluated in this study, whereas the total study group involved 2,348 patients diagnosed over the period from 1972 to 1985. Because of the small study population, the overall mortality of the Danish study was taken as a basis, and the individual subspecification according to the EDSS was established on the basis of the relative mortalities in the EDSS groups in the Canadian study. In the Canadian study, the mortality is given including suicides and excluding suicides. We opted for mortality including suicides since, in some markets, deaths as a result of suicide are not automatically excluded and, in addition, it is often difficult to prove suicide. A doubling of mortality equates in this system to a risk premium loading of 100%.

Table 2 – Multiple sclerosis mortality by level of disability – Results from Canadian Study

Number of Subjects	Disability Score	Observed	Expected*	Ratio
<i>A: Suicides included</i>				
1,394	0-3.5	33	20.67	1.60
789	4.0-7.0	58	31.51	1.84
165	≥7.5	24	5.41	4.44
Total 2,348		115	57.59	2.00
<i>B: Suicides excluded</i>				
1,389	0-3.5	28	20.64	1.36
782	4.0-7.0	51	31.45	1.62
165	≥7.5	24	5.41	4.44
Total 2,336		103	57.49	1.79

* “Expected” rates are from age- and sex-matched data from the Canadian Institute of Actuaries Standard Insured Mortality 1969-1975.

Source: A.D. Sadovnick, G.c. Ebers, R.W. Wilson, D.W. Paty, Life expectancy in patients attending multiple sclerosis clinics, Neurology 1992, 42: 991-994.

We were now able to derive the following relative standard mortality rates, by EDSS:

EDSS Score	Loading
0-3.5	80%
4.0-7.0	92%
More than 7.5	222%

As the EDSS scores in the Canadian study did not exactly match the EDSS scores in the Gen Re LifeHealth underwriting manual (CLUE), standard mortality rates were interpolated and then compared with the CLUE ratings. Direct comparison showed that the mild forms currently tended to be rated too low and the severe form too high. Overall, as a result of this adjustment, the size of the extra loading in the severe group could be slightly reduced but with an increase in extra loadings for the mild form. The resulting range for the new assessments is now between 75% and 150% extra loading and is therefore somewhat narrower than in the existing CLUE.

Discussion

Via the process described above of a systematic review of literature, an informed and careful choice of appropriate studies, and then an actuarial analysis of these studies, we have been able to formulate evidence-based predictions of mortality for multiple sclerosis. Viewed in terms of the overall mortality established in the studies, a somewhat favourable assessment was found in the low EDSS range with a somewhat unfavourable assessment in the high EDSS scores.

In addition we succeeded in defining the assessment range precisely, reducing the highest loading and shifting the range of assumptions in the severe disease forms further in the direction of deterioration (that is the higher EDSS scores).

The slight under-identification of the mild form of multiple sclerosis, which this calculation has revealed, could be corrected by a slight increase in the lowest mortality loading. We know that important prognostic parameters of the disease include the time from onset of the first symptoms, the age of the first manifestation of MS and the stability of the disease in the past. However, these parameters cannot be included in a pure evidence-based assessment system because no valid figures are available. Likewise, it would not be possible to assess unconfirmed cases of MS (e.g., uncertain sensory disorder five years previously; suspicion of multiple sclerosis expressed at the time; to date no evidence of this disease; MRI unremarkable) with a purely evidence-based assessment system. The current practice of loading of these cases with a low extra loading simply reflects the experience of insurance medical officers and underwriters (which is not evidence based). Time of diagnosis and rate of progress of the disease, as far as these can be deduced from the applicant's previous history, are likewise excluded in a purely evidence-based approach.

From the perspective of the underwriter and insurance medical officer, lower premiums are certainly possible for very stable disease forms (five or 10 years without deterioration of the EDSS score). On the basis of an evidence-based analysis of the currently existing studies, however, these figures cannot be actuarially validated.

From the viewpoint of the author (as an insurance medical officer), the following wish list arises from the situation presented here.

- The widest and fullest possible review of the available literature
- Informed selection of relevant studies
- Actuarial analysis of the relevant studies in terms of standard mortality, where possible broken down by age, sex, classification and form of disease concerned
- Formulation of favourable and unfavourable predictors from the viewpoint of the underwriter/insurance medical officer from their own personal experience to date
- Transfer of the numerical data and predictors from an actuarial perspective and from that of the underwriter/insurance medical officer to an assessment system adapted individually to the relevant disease
- Indication of decision-making aids for suspected diagnoses (that is previously unconfirmed diagnoses) and highly probable misdiagnoses (suspected MS 20 years previously; no symptoms, episodes or other confirmation of disease to date) to prevent the unjustified stigmatisation of an applicant as the result of a suspected diagnosis on one occasion

Conclusion

Although it is preferable to base underwriting decisions purely on evidence, we have found that for certain diseases, in this case MS, there just is not enough data to enable us to do this. In situations like this, insurance doctors, underwriters and actuaries have to be able to blend their previous personal experience and expertise with what evidence is available to ensure that the loadings used are as accurate as possible.

Dr. Robert Ostermann-Myrau is working as a medical director for Gen Re LifeHealth in Cologne. He specialises in inner medicine and diabetology and is also working as a general practitioner in Dormagen nearby Cologne.

Highlights from Gen Re's Dread Disease Survey 2000-2004



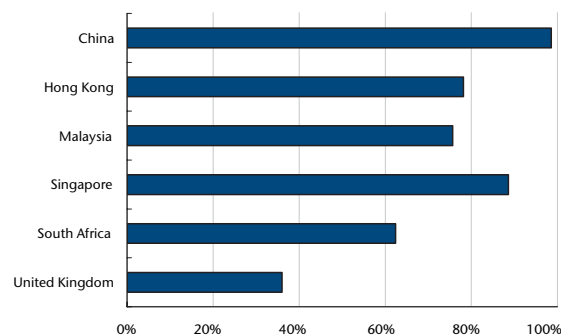
Dr. Wolfgang Droste
Chief Executive – Life/Health Asia Pacific
Gen Re LifeHealth, Hong Kong
wdroste@genre.com

Gen Re's fourth survey of Dread Disease products, portfolios and claims experience has been published in April 2008. (Dread Diseases is also known as critical illness, trauma and severe illness.) This survey expands significantly on our previous work in that additional territories, the UK, South Africa and China, have been included. The survey covers the five-year period from 1 January 2000 to 31 December 2004. Forty-eight insurance companies contributed data with more than 100 million life-years exposed-to-risk and 41 million policies in-force as of 31 December 2004. More than 260,000 claims were analysed with some 125,000 claims under Dread Disease coverage (the remainder largely being mortality claims under such policies). Unfortunately the data from South Africa was not sufficiently detailed, and hence was excluded from much of the analysis (for example, the cause of claim analysis).

Market coverage

Our survey is very representative, covering nearly 100% of the Chinese market and nearly 40% of the UK market.

Figure 1 – Estimated Market Share of Participating Companies



Data collected

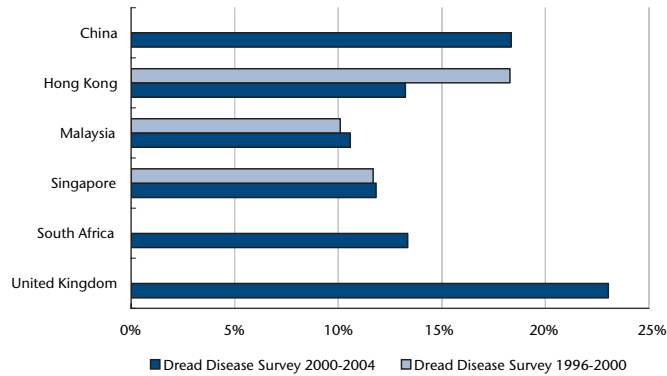
In analysing the insurance market portfolios, we collected a wealth of data, notably detailed policyholder information including: policyholder I.D. and policy number; date of birth; gender; effective date and termination date; smoking status (if available); whether or not it was a medically-examined policy; whether or not it was issued as a standard or substandard policy, in the latter case was the extra morbidity applied; sum insured; and mortality sum insured (if different), etc. For claims, we looked at the claim status (i.e., approved, pending or declined), and if declined, the reason for declination, diagnosis date, notification date and payment date, the cause of claim and, for cancer claims, more specifics about the cancer site, the claim amount, and whether or not it was an ex gratia claim. We analysed 552 different policy contracts in terms of the diseases covered, the relevant disease definitions, and coverage elements, such as waiting period, survival periods, exclusions, premium reviewability, etc.

Summary of some of the findings

Complexity of the product

Dread Disease is a complex product and, in spite of standardisation of definitions in the UK (from 1995) and Singapore and Malaysia (from 1999 and 2001 respectively), declination rates have remained high. The highest declination rate is found in the UK at 23%. In China, it stands at 18% (but for some companies over the observation period, declination rates improved from as high as 50% to less than 20%). Hong Kong's declination rate has improved from 18% in Gen Re's previous 1996-2000 survey to 13%, while rates in Malaysia and Singapore have remained more or less the same at 11% and 12% respectively. The declination rates in South Africa are 14%.

Figure 2 – Declinature Rate by Market



While a large portion of declinature is due to non-disclosure (about 69% of the declinatures in China and 72% of the declinatures in the UK), a further reason is that many policyholders are making a claim when they do not actually meet the claim definition (about 19% in China and 28% in the UK). Regulators are rightly concerned about this potential for misunderstanding which could be construed as mis-selling and increasingly ask for standardisation of definitions. The last country to standardise definitions for the core diseases was China in April 2007. However, it should be noted that even in countries that do have standardised definitions, for example the UK, declinature rates can still be high, and hence regulation may not be the only solution to this issue.

Claim causes

As seen in the previous Dread Disease surveys we have done, cancer continues to be the leading cause of claim in all territories, and the five leading causes make up about 90% of all claims for males and 95% for females. It is interesting to note that in Malaysia and Singapore the distribution of the causes of claim is similar to the UK, with less than 50% of male claims due to cancer, some 20%-25% due to heart attack and some 8% due to stroke. However, the cancer portion is much higher in Hong Kong and China, which shows a correspondingly lower percentage of heart attack claims.

Table 1 – Five Leading Causes of Claim for Males

Cause of Claim	China		Hong Kong		Malaysia		Singapore		United Kingdom	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Cancer	1	60.7%	1	68.9%	1	40.2%	1	48.9%	1	47.7%
Heart Attack	2	18.6%	2	7.6%	2	19.5%	2	23.0%	2	24.9%
Stroke	3	6.6%	3	7.5%	4	8.2%	4	7.9%	3	8.4%
Kidney Failure	4	4.9%	5	3.2%	5	3.5%	6	2.2%	9	0.8%
Heart Surgeries Excluding CABS	5	1.6%	7	1.9%	7	2.1%	5	3.1%	6	3.2%
Coronary Artery Bypass Surgery/Other Serious Coronary Disease	6	1.2%	6	3.1%	3	13.8%	3	9.3%	4	5.0%
Benign Brain Tumour	8	0.8%	4	3.2%	9	1.3%	7	1.5%	8	1.6%
Multiple Sclerosis		0.1%		0.1%		0.2%	10	0.4%	5	3.6%
Total of top 5		92.4%		90.4%		85.2%		92.2%		89.6%
Total of top 10		96.5%		97.2%		95.0%		97.3%		98.4%
Total number of claims		41,710		2,458		4,596		2,925		4,302

For females, cancer plays an even more dominant role with 76% to 87% of all claims being due to cancer. The UK is unique in that the second highest claims cause is multiple sclerosis at 7% of all claims, while this claim cause does not play a significant role in other territories.

Table 2 – Five Leading Causes of Claim for Females

Cause of Claim	China		Hong Kong		Malaysia		Singapore		United Kingdom	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Cancer	1	84.3%	1	85.5%	1	79.7%	1	86.5%	1	76.1%
Stroke	2	3.9%	2	3.7%	2	4.6%	2	4.4%	3	5.3%
Kidney Failure	3	2.9%	4	1.5%	3	3.0%	5	1.4%	10	0.3%
Heart Attack	4	2.4%	7	0.5%	6	1.4%	4	1.5%	4	4.0%
Heart Surgeries Excluding CABS	5	1.2%	6	1.0%	9	1.0%	6	1.1%		
Benign Brain Tumour	6	1.1%	3	3.5%	4	2.7%	3	1.7%	6	1.9%
Carcinoma-In-Situ	8	0.6%	5	1.3%	16	0.0%	13	0.0%	13	0.0%
Coronary Artery Bypass Surgery/Other Serious Coronary Disease	10	0.5%	9	0.4%	5	1.5%	7	0.6%	7	0.8%
Multiple Sclerosis		0.1%	8	0.4%		0.4%	8	0.3%	2	7.0%
Total Permanent Disability		0.0%		0.1%	8	1.3%		0.1%	5	2.6%
Total of top 5		94.7%		95.5%		91.5%		95.5%		95.0%
Total of top 10		97.7%		98.0%		96.9%		97.8%		99.2%
Total number of claims		48,161		3,521		4,805		4,429		3,375

Weak definitions and medical progress

In our analysis we observed a particularly worrying trend for the prostate cancer incidence amongst UK claims. While in 2000 prostate cancer claims made up 10.6% of all male cancer claims, this percentage increased to 22.6% in 2004.

Table 3 – Prostate as % of all cancer claims in males

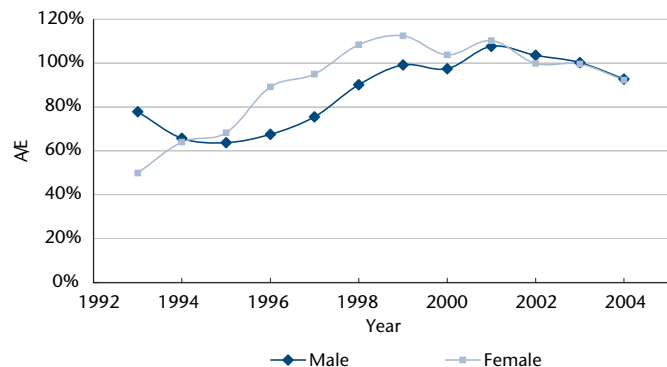
Diagnosis Year	China	Hong Kong	Malaysia	Singapore	United Kingdom
2000	0.0%	0.4%	2.7%	2.2%	10.6%
2001	0.1%	0.0%	1.6%	2.0%	12.7%
2002	0.5%	0.6%	4.1%	0.9%	13.6%
2003	0.3%	1.8%	1.9%	1.7%	16.2%
2004	0.4%	1.0%	1.2%	3.1%	22.6%
2000-2004	0.3%	0.8%	2.2%	2.0%	15.3%

For comparison, the relevant percentage in the population is 10%. This seems to clearly indicate a pattern of anti-selective behaviour amongst policyholders, which is easily understandable given the availability of the prostate specific antigen test (PSA). Minor prostate cancer was not excluded by the standard ABI cancer definition in UK Dread Disease products launched in earlier years, but as a reaction to the growing trend of these claims, from 2002 onwards “all tumours of the prostate unless histologically classified as having a Gleason score greater than 6 or having progressed to at least TNM classification T2N0M0” are excluded.

Trends in actual versus expected claims

While in Gen Re's previous survey we had observed a deteriorating trend, this was not confirmed in the current survey. On the contrary, looking at morbidity and mortality combined, the overall trend seems to show signs of improvement between 2000 and 2004. This could be partly due to strengthening of definitions reducing the number of payouts for minor conditions, as in the previous prostate cancer example.

Figure 3 - A/E Ratios by Calendar Year (Hong Kong, Malaysia and Singapore, Duration 2+)

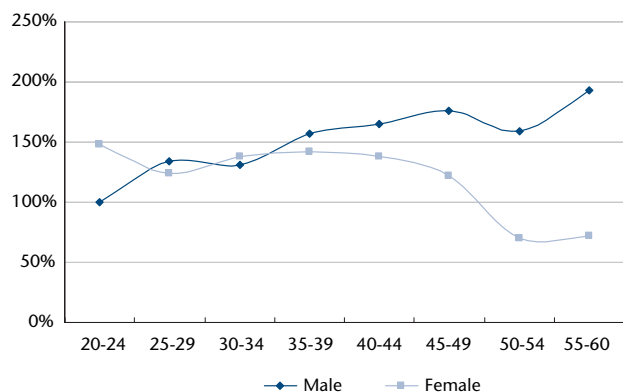


Smoker versus non-smoker

Where available, we also analysed the morbidity differential of smokers and non-smokers. Not surprisingly there is significantly higher morbidity for smokers than for non-smokers. However, the differential is actually lower than that observed for mortality only. The reasons for this are not obvious, and we are doing further research to understand this observation better.

The overall smoker/non-smoker differential for the age range 20-60 is 162% in males and 122% in females.

Figure 4 - Smoker/Non-smoker Differentials by Age Band and Sex (Hong Kong, Malaysia Singapore, Duration 2+)

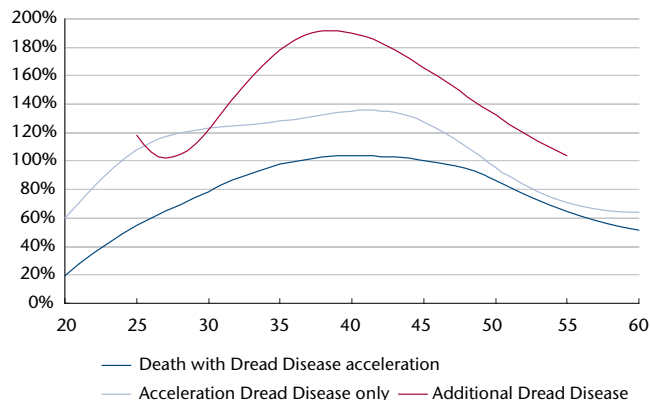


As there were very few female smoker policies in-force for ages above 50, the graph above age 50 should be treated with caution as these results may well be due to volatility and are statistically unreliable.

Female versus Male morbidity

The current survey once again confirmed that morbidity is significantly higher for females at middle ages and only falls below that of males at age about 50.

Figure 5 - Ratio of Female to Male Incidence Rates



Initial selection

For mortality, initial selection effects range from about 30% to 50% in the first policy year and 15% to 25% in the second policy year. With the exception of the experience observed in South Africa and the UK, the initial selection effect for morbidity is far less. By contrast, in some territories (for example, China), significant anti-selection seems to prevail.

Table 4 - Number of Claims and A/E Ratios by Duration and Market (Duration 2+)

Market	Duration	Male		Female	
		No. of Claims	A/E	No. of Claims	A/E
Hong Kong, Malaysia and Singapore	0	673	87%	796	84%
	1	824	93%	1,054	92%
	2+	7,063	100%	9,389	100%
China	0	7,328	90%	7,767	78%
	1	11,959	85%	14,298	77%
	2+	20,911	80%	24,726	78%
Hong Kong	0	178	79%	285	98%
	1	226	81%	353	94%
	2+	1,425	95%	2,098	106%
Malaysia	0	411	93%	392	77%
	1	466	99%	500	88%
	2+	3,340	107%	3,663	96%
Singapore	0	84	83%	119	85%
	1	132	96%	201	102%
	2+	2,298	95%	3,628	101%
South Africa	0	79	114%	34	53%
	1	125	156%	64	87%
	2+	1,508	134%	772	84%
United Kingdom	0	565	91%	504	88%
	1	579	98%	530	99%
	2+	1,871	115%	1,486	106%



Substandard selection

Substandard risks make up a significant portion of all Dread Disease policies being as high as 7.1% in the UK.

Table 6 – Number and Percentage of substandard Policies by Market

	Number of policies	% of all policies
China	339,544	1.1%
Hong Kong	32,720	3.0%
Malaysia	101,816	3.8%
Singapore	41,138	6.0%
UK	47,213	7.1%
Overall	562,431	1.5%

Data suggests that underwriters may have been overly cautious in assessing substandard risks. However, it is important to note that these results are based on relatively few claims, and insurance companies should think carefully before changing their underwriting philosophy.

Overall selection

While a complete comparison of population incidence with insured lives incidence was not undertaken, cancer incidence data was compared and shows an inconsistent picture. For instance, male lives in Hong Kong seem to have a 12% lower incidence (which might be attributable to a lower smoking prevalence amongst insured lives), while for female insured lives, incidence is only about 5% lower, suggesting only a slightly positive selection effect.

Table 5 – Crude Cancer Incidence Rate – Hong Kong

Male Lives

Age	Number of Claims All duration	Insured lives 2000-2004			Population ¹ 2000-2004 Cancer Incidence	Insured lives/ Population Ratio		
		Cancer Incidence Duration				Duration		
		0	1	2+		0	1	2+
20-24	22	0.360	0.083	0.199	0.217	166%	38%	92%
25-29	50	0.199	0.101	0.237	0.315	63%	32%	75%
30-34	140	0.656	0.475	0.466	0.471	139%	101%	99%
35-39	209	0.630	0.578	0.760	0.825	76%	70%	92%
40-44	278	1.080	1.197	1.202	1.462	74%	82%	82%
45-49	270	1.840	2.170	2.200	2.431	76%	89%	91%
50-54	181	3.045	2.520	3.040	3.750	81%	67%	81%
55-59	109	6.054	3.868	5.942	6.084	99%	64%	98%
60-64	31	17.026	5.292	8.764	9.463	180%	56%	93%
20-64	1,290	1.076	0.907	1.066	1.207	89%	75%	88%

Female Lives

Age	Number of Claims All duration	Insured lives 2000-2004			Population ¹ 2000-2004 Cancer Incidence	Insured lives/ Population Ratio		
		Cancer Incidence Duration				Duration		
		0	1	2+		0	1	2+
20-24	32	0.360	0.143	0.206	0.228	158%	63%	90%
25-29	111	0.426	0.344	0.312	0.399	107%	86%	78%
30-34	249	0.757	0.527	0.704	0.667	114%	79%	105%
35-39	460	0.904	1.150	1.411	1.287	70%	89%	110%
40-44	580	2.245	1.895	2.179	2.216	101%	86%	98%
45-49	452	2.244	2.275	2.954	3.176	71%	72%	93%
50-54	316	2.909	2.829	3.716	3.937	74%	72%	94%
55-59	97	3.549	2.946	3.169	4.813	74%	61%	66%
60-64	33	0.000	3.445	5.363	5.815	0%	59%	92%
20-64	2,330	1.268	1.194	1.466	1.539	82%	78%	95%

If death claims from cancer were not included, the incidence rate would have been 20% lower in males and 8% lower in females.

Table 7 – A/E² Ratios by % Extra Morbidity Loading and Duration – Acceleration Dread Disease only, Hong Kong, Malaysia and Singapore Combined

Hong Kong, Malaysia and Singapore	Substandard lives				Standard lives	
	Male		Female		Male	Female
	No. of Claims	A/E	No. of Claims	A/E	A/E	A/E
Extra Morbidity (EM ³)						
Duration 2+						
EM ≤ 25	8	131%	4	66%		
25 < EM ≤ 50	63	87%	59	83%		
50 < EM ≤ 100	36	110%	20	73%		
EM > 100	26	147%	12	86%		
Unknown	377	117%	184	88%		
Overall	510	113%	279	85%	100%	100%

Anti-selection by sum assured

An interesting, but not unexpected phenomenon is the worsening experience with higher sums assured. This was particularly pronounced in China where average sums assured are particularly low at only about RMB 27,500 (roughly EUR 2,750).

Table 8 – A/E Analysis by Sum Assured Band (RMB) – China, Males

	Sum Assured Band (RMB)	Male			
		Actual Claim Count	A/E	95% Lower Confidence Interval	95% Upper Confidence Interval
Duration 0	0-19,999	1,442	72%	68%	76%
	20,000-39,999	4,319	91%	88%	94%
	40,000-69,999	1,199	112%	106%	119%
	70,000+	310	158%	141%	177%
	Total	7,270	106%	104%	109%
Duration 1	0-19,999	2,898	72%	70%	75%
	20,000-39,999	6,749	85%	83%	87%
	40,000-69,999	1,806	108%	103%	113%
	70,000+	345	132%	118%	146%
	Total	11,798	99%	97%	101%
Duration 2+	0-19,999	5,849	69%	67%	71%
	20,000-39,999	11,157	79%	77%	80%
	40,000-69,999	3,151	88%	85%	91%
	70,000+	621	95%	88%	103%
	Total	20,778	83%	82%	84%

Table 9 – A/E Analysis by Sum Assured Band (RMB) – China, Females

	SA Band (RMB)	Actual Claim Count	Female		
			A/E	95% Lower CI	95% Upper CI
Duration 0	0-19,999	1,418	64%	60%	67%
	20,000-39,999	4,563	78%	76%	81%
	40,000-69,999	1,395	99%	93%	104%
	70,000+	292	141%	125%	157%
	Total	7,668	92%	90%	94%
Duration 1	0-19,999	3,762	67%	65%	70%
	20,000-39,999	7,857	85%	83%	87%
	40,000-69,999	2,037	94%	90%	98%
	70,000+	364	99%	89%	109%
	Total	14,020	84%	82%	85%
Duration 2+	0-19,999	7,527	72%	70%	74%
	20,000-39,999	12,622	84%	82%	85%
	40,000-69,999	3,734	85%	82%	88%
	70,000+	654	93%	86%	101%
	Total	24,537	81%	80%	82%

Conclusion

Gen Re's survey provides comprehensive data that can be used for the pricing and reserving of Dread Disease benefits. In addition, the analysis provided in the survey – for example, specific claims trends – enables insurance companies to consider necessary product modifications and the resulting changes to underwriting and claims assessment measures. Gen Re is committed to continuing this project in the future, as we believe that this survey is the premier analysis of Dread Disease products and experience.

Endnotes

- 1 Source of data: Hong Kong Cancer Registry website: www3.ha.org.hk/cancereg.
- 2 Calculated using the "Acceleration DD only" graduated incidence rates for standard lives.
- 3 Extra morbidity loading (EM) % Extra morbidity loading.

Dr. Wolfgang Droste oversees Gen Re LifeHealth's operations in Asia and Australasia. During more than 20 years with Gen Re, Wolfgang was based in South Africa, Singapore and is now in Hong Kong. Wolfgang has also held various positions in the Life/Health and Property/Casualty sectors in Cologne and overseas. He established and developed the Life/Health reinsurance portfolio of Gen Re in Asia as well as our licensing in China.

Non-disclosure in the UK – ABI Guidelines



Anne Gregory
Claims Manager
Gen Re LifeHealth, United Kingdom
anne_gregory@genre.com

A revised approach to non-disclosure in UK claims management

On 9 January 2008 the Association of British Insurers (ABI), a trade association of UK insurers, published guidance on the fair treatment of claims arising under life, critical illness, income protection and other long-term insurance contracts (Guidance).

The Guidance is intended to apply to all ABI member companies and results from a process of consultation. The primary aim is to ensure that, at a consumer level, customers are treated fairly by providing a level playing field for all consumers. There is also the additional benefit in that the interests of honest claimants are protected.

The Guidance focuses on non-disclosure at the application stage discovered at the point of claim, and replaces previous guidance issued by the ABI on this subject.

The overall principle is that the severe remedy of avoiding a policy from outset should be limited to the most serious cases of non-disclosure. The Guidance reiterates existing best practice, re-categorises non-disclosure, and prescribes action in areas which, until January 2008, were within the discretion of the claim handler or governed by individual office claims practice.

The main goals of the Guidance are:

- To improve the image of the industry
- To reduce the level of claims being declined while promoting payment of more proportional claims, ensuring that the premium paid matches the risk
- To introduce a retrospective underwriting approach
- To decline only in the most severe circumstances

The Need for Change

In recent years the UK insurance industry's reputation may have been tarnished by what some commentators see as unfair treatment of consumers whose claims have been declined due to non-disclosure. Although insurers may feel justified in declining these claims, challenges raised through the media or with the consumer support organisation, the Financial Ombudsman Service, have led to calls for a changed approach.

The reasons for declining claims are not that well understood by consumers. Claims are declined due to not meeting a contract's definition of a claimable event or due to non-disclosure. Steps have been taken to clarify the situation regarding claimable events by, improving policy literature and policy definitions, including publishing standard Critical Illness definitions.

Another issue arises around non-disclosure where the consumer would consider the non-disclosure to be minor and not related to the claim. This may or may not actually be true.

The ABI guidelines have been amended previously with non-disclosure being categorised as "innocent", "inadvertent", "clearly reckless or fraudulent/deliberate". However this proved complex and has not redressed the perception of unfairness in this context. Insurers have openly published their declination rates (see Table 1) in an attempt to be transparent, but to the public, this appears simply to confirm the scale of the problem.¹

Table 1

2004 Critical Illness claims	Total percentage of claims rejected	Percentage due to non-disclosure
Norwich Union	26%	13%
Friends Provident	24%	15%
Legal and General	22%	16%
Prudential	20%	8%

New Non-Disclosure Classification

The Guidance now describes only three types of non-disclosure, which are outlined in Table 2.

Table 2 – ABI Guidance

Category	Explanation	Outcome
Innocent	<ul style="list-style-type: none"> The customer has acted honestly and reasonably in all of the circumstances, including the customer's individual circumstances but only where these were known to the insurer. In the circumstances, a reasonable person would have considered that the information was not relevant to the insurer. The non-disclosure would have resulted in a different underwriting outcome. 	Pay the claim in full
Negligent	<ul style="list-style-type: none"> Applies where the non-disclosure resulted from insufficient care – the failure to exercise reasonable care. This includes anything from an understandable oversight or an inadvertent mistake to serious negligence. In the circumstances, a reasonable person would have known that the information given was incorrect and was relevant to the insurer. The non-disclosure would have resulted in a different underwriting outcome. 	Apply a proportionate remedy
Deliberate or without any care	<ul style="list-style-type: none"> Only applies where the non-disclosure was deliberate or without any care. In the circumstances, on the balance of probabilities, the customer knew, or must have known, that the information given was both incorrect and relevant to the insurer, or the customer acted without any care as to whether it was either correct or relevant to the insurer. The non-disclosure would have resulted in a different underwriting outcome. 	Avoid the policy (decline the claim and cancel the policy from inception)

Source: ABI Guidance: January 2008: "Non disclosure and Treating Customers Fairly. Claims for Long-Term Protection Insurance Products," www.abi.org.uk.

It is irrelevant whether or not the claim is linked to the area of non-disclosure.

Determining severity

The Guidance provides a flow chart to help the process of categorisation and to maintain consistency of approach across the industry.

The key principle, however, is that the severe remedy of declining a claim by cancelling the policy at outset should only be used for the most serious cases of non-disclosure. Assessment should therefore commence with a presumption of innocence and progress through negligence until otherwise proven to be deliberate.

If the non-disclosure is deemed to be innocent, then the claim must be paid in full. This was always the ABI stance and is unaffected by the new Guidance. An example of this would be where no appropriate medical question was asked (for example on a short application form linked to an application for mortgage cover).

If the non-disclosure was not innocent but due to a genuine mistake, then the assessor should attempt to return the claimant to the position the claimant would have been in had full disclosure been made. The plan should be retrospectively underwritten, using the underwriting principles that applied at the point of entry, with the amount paid in claim adjusted proportionately. The claimant should, however, never be placed in a better position than an applicant who had fully disclosed at outset.

A proportionate outcome will generally result in claims being settled for amounts reduced in proportion to any rating that would have applied at the underwriting stage had there been

full disclosure. Proportionality may, however, result in no claim being paid if the underwriting decision should have been to exclude or decline.

Past experience suggests that the majority of claims featuring non-disclosure fall into the category where a proportionate claim will now be paid. We can therefore expect an increase in proportionate claim payments with a corresponding decrease in declined claims.

The severe penalty of cancelling the policy from outset should only be applied to claims where it can be clearly established that the non-disclosure was deliberate or without care. Such cases would primarily be those where the applicant:

- had specialist medical or insurance knowledge (for example, a doctor or broker)
- showed a disregard for the accuracy of their answers
- understood that the withheld information was significant to their application.

Such information would extend to any medical issue obviously known to the consumer to be important in the context of the insurance policy (for example, a past history of a heart attack or cancer).

Lifestyle issues

The Guidance suggests claims managers treat any non-disclosure of lifestyle issues, such as smoking or alcohol and drug misuse, as deliberate. This type of personal information is well within an applicant's sphere of knowledge and is clearly relevant to an application for Life or Health insurance. Deliberate non-disclosure here, in the absence of a credible explanation, will attract the most severe remedy.



The Pre-Sale Process

As far as possible, claims managers must always try to understand the reasons for the non-disclosure. There are a number of issues that arise from the need to consider the pre-sale process and to understand why the non-disclosure occurred, including;

- The circumstances of the sale
- The circumstances of the disclosure and its recording
- Whether the intermediary was working on behalf of the applicant or the insurer
- Whether an audit trail of questions asked exists
- Whether the applicant understood the contract and questions.

All of these circumstances must be factored into the assessment and the claimant must be given the opportunity to explain any non-disclosure found.

Collecting Medical Evidence

Previous guidance issued by the ABI did not place any specific restrictions on the collection of medical evidence to validate a claim. Insurers were fully entitled to ask for any evidence necessary to assess a claim.

Now the use of medical evidence to manage claims features prominently in the Guidance. This prescribes that one may only request evidence, beyond confirming that the event has occurred, if there is reason to expect non-disclosure.

The claims manager should request a report from the claimant's doctor (duration certificate) to determine how long the claimant may have suffered from the condition or a related condition that may have contributed to the claim; hence the name "duration" certificate. However, it is common practice, on early claims within one or two years of policy inception, for claims managers to also request access to a policyholder's full medical notes.

The Guidance explicitly prohibits requests for medical notes solely on the grounds that a claim is early. However, an early claim may be a supporting factor taken into account where other grounds for suspicion of non-disclosure are present in the claim. Claims managers are also reminded that they

should only request information on matters relevant to the cause of claim and to consider carefully the time period over which they request information.

This restriction on obtaining "unrelated" medical evidence could result in a small number of early claims (primarily death claims) being paid, where the cause of claim is "unrelated" to a non-disclosed condition or conditions. Such a claim might have been declined previously.

For living benefit claims (critical illness and income protection), claims managers may continue to discover "unrelated" non-disclosed conditions in the consultant's reports and hospital notes routinely required to assess such claims. The risk of non-detection in such claims is therefore considerably reduced.

The guidance reiterates existing best practice to request only relevant information and not to deliberately search for medical information in an attempt to look for reasons to deny a claim.

Lifestyle Information

The Guidance allows claims managers to treat non-disclosure of lifestyle risks as deliberate. We may infer, therefore, that it is within the spirit of the Guidance that any duration certificate can include questions relating to lifestyle issues, such as:

- Tobacco consumption levels, with exposure dates and any recorded respiratory health issues.
- Alcohol consumption levels or drug abuse, with exposure dates and details of all treatment or advice given.
- If alcohol or drug abuse is recorded, full details of any co-existing mental illness, all treatment or advice given.

Our experience shows that non-disclosure in these areas is prevalent in a large percentage of claims, often associated with mental illness.

Pre-existing and Linked Conditions

The Guidance also allows evidence to be collected if the cause of claim suggests that a pre-existing or linked condition is likely to be present, for example cancer and weight loss.

We therefore recommend that duration certificates are designed to elicit details of related conditions according to the cause of claim. This will aid consistency and ensure all relevant history is obtained. (See Table 3.)

The table shown is by way of example and should be expanded to cover other causes of claim as appropriate.

In circumstances where multiple co-existing factors or symptoms are present, for example in cardiovascular disease, the Guidance does allow for medical records to be obtained within a relevant time period. It also allows for medical notes to be obtained if there is likely to be a delay in ascertaining cause of death as in, for example, cases referred for coroner investigation.

It is essential, however, that the reason for requesting evidence must be reasoned and fully documented as this will be required in the event of a dispute being escalated to either legal or ombudsman level.

Conclusion

In summary, the effect of the Guidance will be that in the event that non-disclosure is discovered at claim stage, the majority of such claims will now be settled in proportion to the amount of premium actually paid. Fewer claims will be declined in entirety, with premiums being returned. This will mean that insurance companies will inevitably pay out more.

However, the increase in claims paid should be balanced by the additional premium collected, assuming of course that the “ratings” are correct.

Going forward, improved practices at the underwriting stage, promised by tele-underwriting and post-issue medical spot-checks, should also help to reduce levels of non-disclosure.

Improved duration certificates and realistic interpretation of the Guidance should help to maintain the detection rate of significant non-disclosure.

It is too soon to say if the new approach will win the consumer over. Claims managers will need to monitor any impact of the changes closely to ensure that “deliberate non-disclosure” does not increase. Were that to happen, then the primary idea of “treating customers fairly” would be compromised, with the honest but decreasing majority subsidising a dishonest but increasing minority, which is not the aim.

Endnote

1 Figures collected from individual company reported data.

Table 3

Generic cause claim (primary or secondary)	Examples of specific condition	Related Claim related evidence question protocol
Cardiovascular	Myocardial infarction Cardiomyopathy Congestive cardiac failure Coronary atheroma	Smoking, family history, overweight, lipids, hypertension, any congenital or valvular heart disease, arrhythmias, cardiovascular disease, any other circulatory problem, stroke, TIA, clotting disorder, drug abuse, diabetes, rheumatoid arthritis
Cancer	All cancers	Weight loss, referral for investigations in last five years
	Lung	Smoking, respiratory problems
	Breast	Family history, breast lumps
	Colon	Smoking, family history, gastrointestinal problems
	Bladder	Smoking, alcohol use, urinary problems
	Oesophagus, larynx, mouth	Smoking, alcohol use, gastro intestinal or reflux disease, Barrett's
	Liver	Alcohol use, hepatitis, drug use
	Carcinomatosis (unknown primary)	All of the above

Anne Gregory is Claims Manager at Gen Re LifeHealth, UK. Anne joined Gen Re in 1999 and has 30 years experience in underwriting and claims management, drawn from both the reinsurance and direct markets.



Kevin Uryase
Second Vice President
Gen Re LifeHealth, North America
kuryase@genre.com

Individual Life Insurance in the US – Does Total Line Equal the Sum of All Financial Formulas?

This article outlines the advantages of developing a company philosophy and formula to determine the life insurance total line for each proposed insured. Total Line is the total amount of coverage in-force and to be placed with all insurance companies.

All life underwriting manuals provide simplistic formulas for financial underwriting, for example: An insured at age 20 usually has an income replacement value of 25 to 30 times income, and an applicant for key person coverage may be eligible for 5 to 10 times the applicant's income.

Why then is financial underwriting such a conundrum? Does Total Line equal the sum of all financial formulas?

It is obvious that an exaggerated total life value will be developed by merely adding together all life insurance purposes (where an insurance "purpose" could be personal cover, business cover, estate planning cover, etc). Each underwriting department should attempt to provide its underwriters with a basic philosophy to determine a uniform maximum total amount of coverage for each insured. This article is not intended to construct an absolute model for evaluation of total line, but to provide some logical steps needed for your company to institute its own total line approach.

So here are the five steps involved in developing a total line process.

Step One

The first step in creating a guideline is to provide underwriters with your department's definition of total line of coverage. One definition of total line of coverage is:

The total amount of coverage in-force and to be placed with all companies. Group coverage, cash values and in-force coverage that is confirmed to be replaced, or 1035-exchanged, can be subtracted from the total line developed. (Note: A 1035-exchanged policy is a tax efficient exchange of the cash value from one life insurance policy to another.)

Step Two

Divide life insurance purposes into like-segments. It can be argued that the three main purposes for life insurance planning are:

1. Income Replacement
2. Business Insurance Needs
3. Estate Conservation

Step Three

Eliminate overlap of coverages.

Income Replacement

One method of income replacement is to keep the combination of all of the following sales purposes from exceeding the multiple of income from your company's income replacement table:

- Income replacement need
- Deferred compensation
- Split dollar (Note: A "split dollar" policy is an employer-sponsored insurance policy whereby one of the benefits is a return of premiums to the employer on the death of the employee. This type of policy is tax efficient for both the employer and the employee.)
- Personal-Creditor
- Charitable donations

Business Insurance

Key person and buy/sell coverage are two distinct needs. It may be appropriate for your company to allow both purposes to be added into your total line approach.

Estate Conservation Need

To prevent overlap of coverages, when evaluating estate conservation, it is necessary to consider:

- Subtracting business assets from net worth when buy/sell coverage need has been fully implemented.

The *buy/sell agreement* guarantees that the family will receive a fair price for the interest of the deceased owner, partner or stockholder. The buy/sell agreement contains a valuation of the business upon which the insurance amount is based. It is usually binding on all parties.

Benefits are paid by the insurance company to the business to fund the agreement. The business then pays the insured's heirs.

The agreement protects the personal wealth of the insured by providing the buyer for the business at an agreed-upon price, thus avoiding a forced sale under potentially unfavorable conditions.

Thus a buy/sell agreement, fully funded with life insurance, effectively removes an applicant's business assets from the taxable estate.

- If a Charitable Remainder Trust (CRT) is insured on an individual policy, the asset used in the CRT should be subtracted from the net worth before determining the estate value.

A *Charitable Remainder Trust* is an estate planning tool. Property or money is donated to a charity, but the donor/grantor is allowed to use the property or receive an income stream from the property during the grantor's lifetime.

Since the actual assets of the CRT have been irrevocably donated to the charity, the property of the CRT has been removed from the applicant's taxable estate and does not need to be considered for estate taxation liability.

- When a husband and wife are each applying for individual life policies, and each are applying for 100% of their joint net worth, the agent is asking the insurer to insure 200% of their joint net worth. Consider reducing the face amounts of both lives in this scenario.

Marital deduction – The Economic Recovery Act of 1981 provides for an unlimited deduction for transfers to a spouse on first death. Thus there is no federal estate tax on wealth left to a spouse. This is known as the “unlimited” marital deduction. The estate tax is not eliminated; it is only deferred to the death of the surviving spouse. This led to the development of the Last-to-Die (Survivorship) products.

Note the difference in the financial underwriting of an estate conservation need concerning:

- a married couple
- both age 70
- both standard issues
- with a joint net worth of USD 5,000,000

Example #1 – When estate conservation planning utilizes Second-to-Die coverage

Gen Re LifeHealth Estate Tax Liability Calculator

Input all items highlighted in blue:	First Life	Second Life	Joint Life Survivorship
Age:	70	70	
Gender:	M	F	
Smoker (S) or Nonsmoker (NS):	NS	NS	
Mortality Rating:	100%	100%	
Net Worth:	USD 2,500,000	USD 2,500,000	USD 5,000,000
Interest Rate:	4%	4%	4%
% of Life Expectancy for Compounding:	50%	50%	50%
Estate Tax based on year (US guidelines):	2027	2029	2032
Compounded Net Worth:	USD 748,349	USD 776,935	USD 8,314,688
Effective Estate Tax Rate:	0.0%	0.0%	46.5%
Estate Tax Liability:	–	–	USD 3,868,078

In the first situation, our 70-year-old couple appropriately chooses a Second-to-Die plan to solve their estate conservation problem.

- Often it is cheaper to buy one Second-to-Die product, instead of two separate individual policies.
- Second-to-Die coverage also provides for one “uninsurable” risk. Since estate liability planning often involves an older age market, the ability to provide coverage for one “uninsurable” risk is also an important component of Second-to-Die coverage.

Based on the Marital Deduction after the second death, there will be an estate tax of USD 3,868,078. For estate planning purposes in the above scenario it would be appropriate to apply for USD 3,868,078 of coverage only if a Second-to-Die product is used.

Example #2 – When estate conservation planning utilizes two individual plans of life coverage

Input all items highlighted in blue:	First Life	Second Life
Age:	70	70
Gender:	M	F
Smoker (S) or Nonsmoker (NS):	NS	NS
Mortality Rating:	100%	100%
Net Worth:	USD 2,500,000	USD 2,500,000
Interest Rate:	4%	4%
% of Life Expectancy for Compounding:	50%	50%
Estate Tax based on year (US guidelines):	2027	2029
Compounded Net Worth:	USD 3,741,757	USD 3,884,685
Effective Estate Tax Rate:	36.2%	36.9%
Estate Tax Liability:	USD 1,352,967	USD 1,431,577



Illustration – Sample of a possible total line formula that will produce a uniform total line dollar amount that would be applicable for most financial scenarios.

Income Replacement Need	
<i>Regardless of what the sales approach is, the total amount should not exceed the multiple of income of the basic income replacement rule.</i>	
Basic income replacement need	Refer to Income Replacement Table
Deferred compensation	
Split Dollar	
Personal-Creditor	
Charitable Giving	
PLUS	
Business Insurance Needs	
<i>It is acceptable to combine Key Person and Buy/Sell Amounts</i>	
Key Person	Up to 10 times Income
Buy/Sell	% of Ownership Based on the Fair Market Value of the Business
PLUS	
Estate Conservation Need	
<i>If buy/sell coverage is fully implemented, the business assets should be subtracted from the net worth.</i>	
<i>If a Charitable Remainder Trust is insured on an individual policy, the asset used in the charitable remainder trust should be subtracted from the net worth before entering the estate calculator.</i>	
Joint policy used	Based on joint net worth use Estate Calculator with an interest rate of 4% to 6% and ½ the life expectancy of the applicant with the longest life expectancy.
Single Life policy used and currently married	Based on joint net worth use Estate Calculator with an interest rate of 4% to 6% and ½ the life expectancy.
<i>When both husband and wife are each applying for individual life policies, and both are applying for 100% of their joint net worth, the agent is asking the insurer to insure 200% of their joint net worth. Both face amounts of the individual policies should be appropriately reduced in this scenario.</i>	
<i>When determining estate conservation need on Variable and other plans with an increasing death benefit use 50% Life Expectancy for the Initial amount and 100% Life Expectancy for the Ultimate amount at risk.</i>	
Equals the total line of coverage available	

If individual coverage is used, and each spouse applied for USD 3,868,078 of coverage, the agent is asking the insurer to insure 200% of the couple's estate liability need.

When individual coverage is used to cover estate tax liability for a married couple, use half of the joint net worth for both spouses to determine an appropriate estate liability need (see the illustration in the left column).

- Often it is more expensive to buy two separate individual policies.
- Individual coverage does not provide for an “uninsurable” risk.

Step Four

A total line financial formula as above will provide underwriters with a uniform total line to the dollar.

Consider allowing your underwriters to have some financial flexibility when working with agents. When your total line financial formula verifies a maximum amount of USD 900,000, is it worth it to cut a policy from USD 1,000,000 to USD 900,000?

- An underwriter's request to reduce the total line a minimal amount will require the agent to re-sell the amended face amount to the proposed insured. In a competitive situation, this may create enough of a nuisance for the agent that coverage will be placed with a different carrier.

Allow underwriters to exceed total line determined by some percentage.

Illustration – Determine the Level of Company Participation

If the total line determined by the Total Line Formula is exceeded by less than 10%	Fully Participate
If the total line determined by the Total Line Formula is exceeded by more than 10%	Individual Consideration

Example of Determining Total Line of Coverage and Company Participation Level

- Brand X application for USD 8,000,000 of individual coverage on a 38-year-old, owner and beneficiary spouse. Pending application with Brand Z for USD 7,000,000 will also be placed. Applicant has USD 250,000 of group coverage in-force and other in-force coverage to be replaced.
- Total line to be justified USD 15,000,000.
- Source of financial information is the Inspection Report and financial information verified by a Certified Public Accountant and an attorney.
- Applicant is 50% owner of a manufacturing plant with 50 employees. Web-based search verifies this business is viable and outlook for the future favorable.
- Medically, Table 2

Earned income USD 200,000	Need Income Replacement Multiple of Income Factor 20 times income	USD 4,000,000
Fair market value of business USD 8,000,000 <i>Applicant is 50% owner Other 50% owner applying for a like-amount of coverage</i>	Need Buy/Sell 50% of Fair Market Value of business	USD 4,000,000
	Need Key Person Factor 5 times income (<i>only age 38 will use a factor of 10</i>)	USD 2,000,000
Net Worth USD 7,310,000 consisting of the fair market value of the business and the remainder of the net worth in liquid assets	Need Estate Conservation Business Assets already funded with life insurance (<i>see Buy/Sell need above</i>) Remainder of Net Worth USD 3,310,000 Enter the remaining net worth into the estate calculator 4% interest rate (interest rate subject to change based on current economic conditions) and ½ Life expectancy =	USD 4,455,324
Maximum Total Line of Coverage Available		USD 14,455,324

Gen Re LifeHealth Estate Tax Liability Calculator

Age:	38
Gender:	M
Smoker (S) or Nonsmoker (NS):	NS
Mortality Rating:	50%
Net Worth:	USD 3,310,000
Interest Rate:	4%
% of Life Expectancy for Compounding:	50%
Estate Tax based on year (US guidelines):	2060
Compounded Net Worth:	USD 9,382,407
Effective Estate Tax Rate:	47.5%
Estate Tax Liability:	USD 4,455,324

- Total line available USD 14,455,324
- Total line requested is USD 15,000,000
- Over insured by USD 544,676 or 3.76%
- Accept Total Line

Step Five

Reinforce your underwriting formulas and total line approach by providing your underwriters with a quick one page financial reference.

- Allowing your underwriters to have a condensed quick reference financial guide will help them to work smarter and more efficiently.
- The majority of financial underwriting scenarios can be solved rapidly without extensive manual research by reviewing the financial formulas noted below.
- A quick reference financial guide will also help your underwriters to accurately and uniformly answer telephone inquiries from your field force.



Illustration – Personal Need and Business Needs

Personal Need

Income Replacement Table*		Estate Conservation	
Age	Income Multiples	Last-To-Die policy used	Based on joint net worth use Estate Calculator with an interest rate of 4% and ½ the life expectancy of the applicant with the longest life expectancy.
18-30	30X	Single Life policy used and currently married*	Based on joint net worth use Estate Calculator with an interest rate of 4% and ½ the life expectancy.
31-35	25X	* When both husband and wife are each applying for 100% of their joint net worth, the amount of both individual policies should be appropriately reduced.	
36-40	20X	If Buy/Sell coverage is fully implemented the business assets should be subtracted from the net worth.	
41-45	18X	If a Charitable Remainder Trust is insured on an individual policy, the asset used in the CRT should be subtracted from the net worth.	
46-50	15X		
51-55	12X		
56-60	10X		
61-65	8X		
66 and over	Individual Consideration		

The total of basic income replacement need, deferred compensation, split dollar, personal creditor and charitable giving should not exceed the Multiple of Income Table.

Business Needs

Key Person	Up to 10x income	Buy/Sell	% of ownership based on the fair market value of the business
Total Line =	Personal Needs Income replacement and Estate Conservation	+ Business Insurance Need Key Man and Buy/Sell	
If total line is exceed by 10% or less		Fully Participate	
If total line is exceeded by 10% or more		Individual Consideration	
Underwriting discretion and taking all aspects of the underwriting file into consideration is required before approving a total line of coverage.			

Summary

The advantages to developing a company philosophy for the determination of an insured’s total line include:

- A total line formula creates a uniform approach for financial underwriting.
- It allows your underwriters to have a format to explain determination of total line on a particular case to an agent/broker.
- It provides total line determination formula for reinsurance audits.
- A total line formula will work on the vast majority of all financial scenarios both small and jumbo cases. On particularly complex cases where your company’s advanced marketing attorneys need to get involved, a total line formula provides an appropriate starting point for initial discussion.

With these in place, your company’s financial underwriting will become more science and less “art.”

This article first appeared in ON THE RISK, Journal of the Academy of Life Underwriting, Volume 23, n. 4 (2007). It was reprinted with permission. This article does not purport to offer tax advice. Please consult a tax professional.

For the last five years, **Kevin Uryase** has worked in the life reinsurance underwriting department of Gen Re LifeHealth, North America, in Hartford. Kevin is a Second Vice President and underwriting manager. He also has 20 years experience as a life underwriter for a number of insurance companies. Kevin received his FALU designation in 2003 and is the current president of the Hartford/Springfield Underwriting Association.

HIV/AIDS Products – A Tale of Two Worlds



Jürgen Warstat
Head of Underwriting Research & Development – LifeHealth Client Services
Gen Re LifeHealth, Germany
juergen.warstat@genre.com



Louis Rossouw
Technical Actuary
Gen Re LifeHealth,
South Africa
lrossouw@genre.com

The development of insurance solutions for people with HIV/AIDS has been an interesting and innovative process. Specific factors that affect each country have resulted in the different regions around the world coming up with different solutions on how to offer life insurance products to people who test HIV positive. In this article we focus on how two regions, Europe (more specifically, Germany) and South Africa, have dealt with the challenge of the HIV/AIDS epidemic. We will look at the following factors, and how they have an impact upon the products available in the markets:

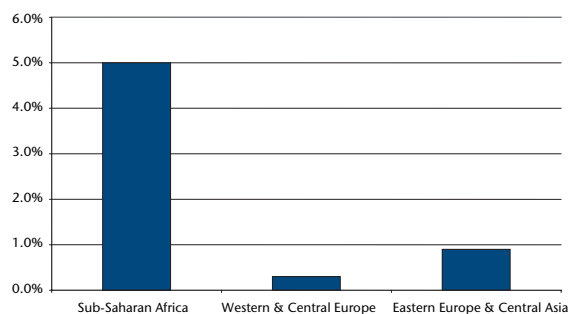
- Epidemiology and the prevalence of HIV/AIDS
- Implementation of treatment for HIV/AIDS
- The underwriting environment

Epidemiology and prevalence – and its impact on products for people living with HIV/AIDS

In comparing the epidemiology of the disease in Europe and Southern Africa, the first major differences come to light. According to a press release¹ put out at the end of 2007 by the Robert Koch Institute, which is responsible for monitoring trends in infectious diseases in Germany, "... at the end of last year altogether around 59,000 people were living in Germany with an HIV infection or AIDS-related illness." UNAIDS (the joint United Nations programme on HIV/AIDS) estimates that 0.1% of adults between the ages of 15 and 49 in Germany are HIV positive.²

Graph 1 shows the prevalence estimates from the UNAIDS report for 2007 in three world regions.³

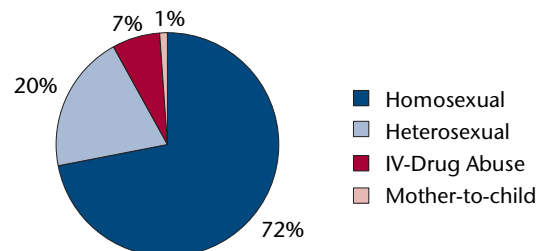
Figure 1 – HIV Prevalence Amongst Adults Aged 14-49



South Africa has one of the highest HIV-prevalence rates in the world. The comparable estimate from UNAIDS is that 18.8%⁴ of adults are HIV positive

Another point to consider is how the disease spreads. In Western Europe the disease has been spreading mainly through male homosexual contact. The Robert Koch Institute (RKI) estimates that 72% of all infections in Germany are transmitted through homosexual contact. Relatively few cases are transmitted via heterosexual contact (20%). In other regions of Europe (specifically Eastern Europe) transmission through drug abuse may play a larger role.

Figure 2 – Modes of Infection in Germany



In Southern Africa the disease spreads mainly via heterosexual contact. The result is that the disease is spread across a much broader cross-section of the population. It also means that most of the people living with HIV/AIDS are women. UNAIDS estimates that in sub-Saharan Africa 61% of people living with HIV/AIDS are women.⁵

The high prevalence of HIV/AIDS in South Africa, along with the sophisticated insurance market, has resulted in a demand for products for people living with HIV/AIDS. The first-ever life insurance product for HIV-positive lives was launched in the 1990s in South Africa. The product is reinsured by Gen Re LifeHealth, but the sales were disappointing, primarily because the product was expensive and restrictive (that is, only very healthy, or recently infected, HIV-positive people could take out the policy). This cost issue was especially problematic as HIV prevalence in South Africa tends to be



highest amongst the low income earners and the unemployed. It should also be noted that a portion of the demand for products for people who are HIV positive is met by the availability of small sum assured insurance products (without HIV testing), as well as the availability of cover without underwriting in the employer-based Group Life environment.

The low prevalence in Europe has meant that demand for products for lives with HIV/AIDS has been a lot lower. The enlargement of the EU, particularly to include Eastern European countries does, however, increase the need for a solution in the region. In Europe Gen Re has been issuing positive acceptance recommendations for HIV-infected applicants since the mid-nineties. The case-by case-approach adopted here is a function of the lower demand for products.

Implementation of treatment

One of the reasons life insurance products for people who test HIV positive had been prohibitively expensive was that the products did not allow for the effect of treatment, or more specifically, highly-active antiretroviral therapy (or HAART). This was because, firstly, in some markets, such as South Africa, treatment was not readily available to all people, and, secondly, insurance products that required the ongoing monitoring of patients' compliance with a health management regime were not common.

Studies reveal that when undergoing HAART, HIV patients who do not also have a hepatitis C infection, have a death rate similar to that of successfully treated cancer patients. Even though the impact of these improved treatment protocols over the longer term is still relatively uncertain, this reduction in mortality has created the opportunity to offer insurance to these lives as significantly reduced premiums. It should also be noted that these treatments do not cure the disease but only suppresses the disease in the patient, thus reducing the impact of the disease in terms of symptoms and mortality.

This improved diagnosis has not only improved the affordability of insurance for these lives but also increased the demand as these lives return to a relatively normal lifestyle. With this development comes the typical insurance needs (for example, to cover the outstanding balance on a home loan).

The main differences between treatment in South Africa and in the developed world are in relation to the widespread availability of treatment and the successful implementation of these treatments at a patient level. UNAIDS estimated that by December 2006, 28% of people requiring treatment in sub-Saharan Africa were receiving it. This contrasts with only 2% receiving treatment in 2003. It is clear that treatment rollout has progressed significantly in the region. In South Africa this number is estimated at just below 30%.

In South Africa, treatment is readily available to employed lives that have employer-based medical aid arrangements. Indeed any medical aid or medical scheme is required by law to fund these benefits. The government rollout of treatment, however, has been slow. Even at hospitals and clinics where treatment is available, there are many practical problems to overcome, such as long travel times to these clinics and long queues to see a doctor.

For Western Europe treatment is widely available. In Eastern Europe and Central Asia UNAIDS estimates 15% of people who require treatment are receiving it.

There are typically two main factors which counteract the successful treatment of a patient with a specific set of drugs:

1. The patient may have an adverse reaction to the medication, which may require the patient to switch therapy.
2. The disease eventually develops resistance to a specific drug or combination of drugs, necessitating the switching of treatment.

Thus the continuation of mortality improvements for patients on treatment is now dependent on the continued availability of new drugs in the future.

In South Africa these points has given rise to concerns with regards to the practicality of maintaining so many lives on complex drug protocols. As an example, treatment interruptions due to a lack of understanding of the patient or due to practicalities of obtaining drugs are a concern to product providers, especially where the patient is accessing treatment through the government programme. This is concerning as these interruptions increase the risk of resistance of the disease to the drugs, resulting in the need to the need to switch protocols, which in turn increases the risk of the patient running out of drug options and finally failing treatment.

Despite these concerns, the introduction of treatment has enabled cheaper products to come to the fore in both regions. In Europe, Gen Re LifeHealth has been steadily reviewing and refining the acceptance guidelines and assessment practice in this regard. This review has resulted in the improved prognosis due to treatment being taken into account in the underwriting process. In practice, this does not only apply to persons who are receiving antiretroviral therapy at present, but to all applicants without any AIDS-defining illnesses (CDC Phases I and II), who do not have hepatitis C, who are not drug addicts, and whose laboratory markers are within certain parameters.

The Verbond van Verzekeraars (a Dutch insurance association) also released a report showing the impact of treatment on mortality of HIV-infected lives as well as the potential for treatment to reduce premiums of these products.

The availability of treatment in South Africa has resulted in a new generation of products that aim to take account of this improved prognosis of treatment. The potential for lack of treatment compliance has resulted in products that have an ongoing monitoring component built into them. We have described a version of this product in a previous *Risk Insights* publication. (See the article in our February 2005 edition, "Life+: Life Insurance for HIV-Positive Lives.") This product and others like it aim to ensure that the life is indeed being treated and being monitored appropriately. This allows lower premiums to be charged as it protects the insurer from the risk of people not seeking proper medical treatment. This type of product is doing well in the market.

In Europe there is not a similar focus on ongoing monitoring, as treatment is more widely available with a better supporting infrastructure.

Underwriting environment

A similarity between the two regions is the importance of the debate around the "right to underwrite" and the issue of discrimination. In South Africa it has become important for the life insurance industry to provide products for people with HIV/AIDS and not to merely exclude them. Any differential treatment of these lives also needs to be evidence-based to avoid any unfair discrimination.

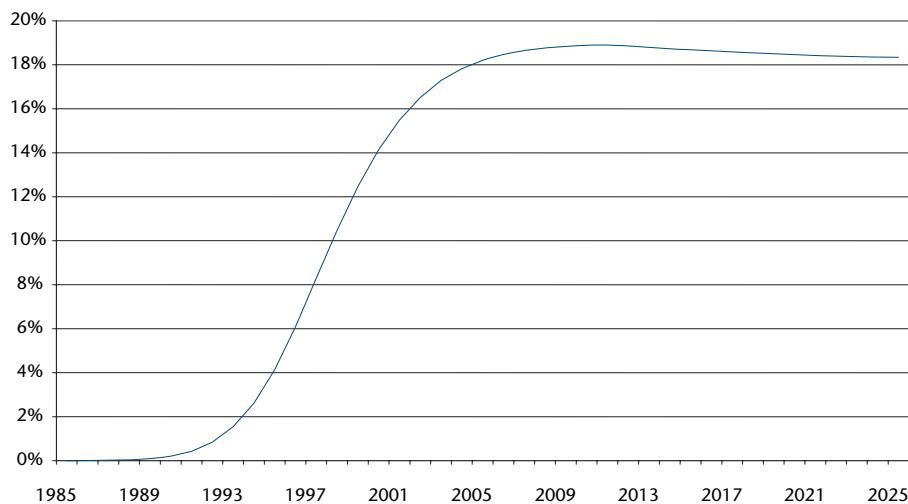
The European debate around underwriting is characterised by the balance between the legitimate interests of HIV-infected persons in having access to existentially important insurance protection, and the equally legitimate interests of life insurers in adherence to economically sensible underwriting principles. In the future, declining or loading an HIV-positive life will only be permissible if justified by credible statistics. In addition, similar to the debate surrounding the use of genetic testing, it is possible that a set of rules will be put in place governing how information can be obtained for insurance from people who are HIV positive. In many European countries (including Germany, the Netherlands, France and Switzerland) limits are being considered, or have already been implemented, for sums insured below which either no or only very restricted risk clarification is permissible. This approach could potentially also be applied to persons infected with HIV.

In South Africa a clear priority is that people living with HIV/AIDS are not discriminated against in any form. This is interpreted differently when applied to the insurance industry. For example, in its simplest form, there are calls to ensure that people are not excluded from coverage but offered cover at a fair (commensurate with the risk) price. These calls are often also more challenging because there is no differentiation of people with HIV/AIDS from those that are HIV negative.

The future

The Actuarial Society of South Africa predicts that prevalence in adults aged 15-49 will remain relatively stable over the next number of years in South Africa.⁶

Figure 3 – Actuarial Society of South Africa 2003 Prevalence Estimates (Adults Aged 15-49)



Therefore the disease has potentially reached a peak in terms of prevalence.

However, the impact on population mortality is still increasing, and this is likely to continue to drive the need for insurance product for HIV-positive lives.

The continuing rollout of treatment to HIV-positive lives, especially through the government programme, is key to the future of South Africa and an important factor to consider in future product developments with regard to HIV/AIDS. This also entails monitoring the success of treatment and its impact on mortality.

In Europe we believe that it is important to closely follow the socio-political debate, which will have a significant influence on underwriting and product design. In this context it is clear to us that as large a section as possible of the HIV-positive population should access insurance protection. However, in order to be able to offer attractive premiums, we believe it is also essential to stand by the principles of underwriting and risk selection.

We also believe that the continuing research into treatment options for HIV/AIDS will lead to further improvements in the prognosis for people with HIV/AIDS. This will make products even more affordable and will normalise the insurance treatment of the disease.

At present, though, given that there is still relatively little data on the mortality of HIV-positive lives who are on treatment, product development in both regions will have to continue to carefully tread new and innovative paths.

Endnotes

- 1 Robert Koch Institute. "Epidemiologisches Bulletin zum Welt-Aids Tag 2007", No. 47, 23.11.2007, Page 429-444.
- 2 UNAIDS. Germany – Epidemiological Fact Sheets, UNAIDS (2006), www.unaids.org.
- 3 UNAIDS. Fact sheet: Key facts by region – 2007 AIDS Epidemic Update. UNAIDS (2007), www.unaids.org.
- 4 See Endnote 3.
- 5 UNAIDS. South Africa – Epidemiological Fact Sheets, UNAIDS (2006), www.unaids.org.
- 6 Actuarial Society of South Africa. ASSA2003Lite HIV/AIDS Demographic Model, www.assa.org.za.

Jürgen Warstat joined Gen Re in 1980 and is based in Cologne, Germany. He is a life underwriter with a focus on both individual and group covers, especially in the area of disability insurance. As Head of Underwriting Research & Development within LifeHealth, among others, he is responsible for answering fundamental questions of underwriting, developing underwriting guidelines and the training of life underwriters.

Louis Rossouw joined Gen Re LifeHealth in South Africa in 2001 and is based in Cape Town. He is an actuary with responsibility for both individual and group experience rating and pricing including providing for incurred but not reported claims. He is convenor of the Actuarial Society of South Africa's AIDS Committee.

Inside Gen Re LifeHealth

Gen Re Client Seminars

- > **Gen Re LifeHealth, Korea**, hosted its first Underwriting Club Meeting of this year in Seoul on February 20, 2008. Twenty-three underwriters from 18 life insurance companies and cooperatives attended the meeting. Dr. Naoki Chida, MD, PhD of Gen Re's Tokyo office gave a two-hour lecture about "Underwriting Practice in Japan". The next meeting is scheduled for June; the date and topic will be announced.
- > **Gen Re LifeHealth, Mexico**, organized a Bancassurance Seminar in Mexico City from February 6 to 8 for a selected group of Latin American companies. The seminar included a presentation of both internal and external speakers about bancassurance products, marketing strategies, policy administration software, and underwriting in bancassurance, among others. Additionally the participants had the opportunity to visit an important international bank and interact with the banks' executives during their presentations. The seminar ended with a workshop where the participants had the task of designing an insurance product to be marketed through their group's bank.
- > **Gen Re LifeHealth, Spain**, hosted their "IV Encontro de Análise de Risco de Vida" for the Portuguese market, on the April 16, 2008 in Lisbon. Thirty-seven people from 15 companies took part in this meeting. Angel Luis González, responsible for the Portugal market, talked about the Basic Concepts of LTC Insurance. Ana Páez, life underwriter, gave a presentation on "Insuring Sports and Occupations". Gloria Palma, life underwriter, made a presentation on the Past, Present and Future of Laboratory tests. To close the meeting, Dr. Fernando Oñoro, CMO for the Madrid office, discussed several case studies with the participants and answered questions brought up by the audience.
- > **Gen Re LifeHealth, North America**, hosted their Annual Advisory Council Meeting at the Ginn Reunion Resort near Orlando, Florida in March. Twenty client companies were represented and presentations were made by: Steven Mannik, President and CEO, Jim Greenwood, Senior Vice President, and other Gen Re executives on Living Benefits, Elderly Mortality, the life reinsurance industry and Gen Re LifeHealth's strategic direction and outlook; Merrill Matthews, Ph.D., Director of the Council for Affordable Health Insurance on the "State of Affordable Health Insurance in the U.S."; Sheila M. Noonan, Senior U.S. Fixed Income Portfolio Manager, Executive Director at UBS Global Asset Management on the "Subprime Market"; and Mary Bahna-Nolan, Director in the Actuarial and Insurance Management Solutions life practice at PriceWaterhouseCoopers on the "2001 CSO."
- > **Gen Re LifeHealth, North America**, hosted Genworth's Annual LTC Underwriting Meeting on April 18, 2008 to recognize quality underwriting. Senior executives from Richmond were in attendance along with over 30 staff underwriters.
- > **Gen Re LifeHealth, North America**, Barry Eagle, Vice President, Marketing, and Steve Rowley, Vice President, Risk Management, hosted a Critical Illness Roundtable in Dallas, Texas on May 13, 2008 focusing on Group and Worksite critical illness products.



Underwriting Club Meeting, Korea



Bancassurance Seminar, Mexico City



IV Encontro de Análise de Risco de Vida

Inside Gen Re LifeHealth

Gen Re Client Seminars (cont'd)



Stacy Varney, JHA, leading panel discussion.

- > **JHA, North America**, hosted its 15th annual Dynamics of Disability Seminar in Ponte Vedra Beach, Florida March 4-6, 2008. JHA enjoyed record attendance with over 375 disability and group life insurance professionals from North America, South Africa, Australia, Germany, Ireland, the United Kingdom, Bermuda and China. A number of JHA associates were speakers at the event, as were representatives from Gen Re offices in Germany and South Africa. Over 80 disability and group life clients attended Dynamics, and a number of clients also presented in a variety of workshops including one at a general session. All together, there were 27 workshops and three general session presentations given over the three-day period. About 35% of this year's attendees were first-time attendees.

Our Professionals

- > **Thomas Ashley**, Managing Director, FACP, Vice President, Chief Medical Director, is Chair of the ACLI Medical Section for 2007-2008.
- > **Neal Jones**, ALHC, CEBS, Assistant Secretary Claims, wrote an article that appeared on the 2007 Conference website of the International Claim Association titled: "Investor-Owned Life Insurance."
- > **Laura Vecchione**, Managing Director, Second Vice President Medical Director co-authored a article with **Eric D. Golus**, FSA, MAAA, Second Vice President and Actuary that appeared in the *Journal of Insurance Medicine* titled: "Underwriting the Elderly: The Utility of DWR, Part II."

Inside Gen Re LifeHealth

Our Publications

International

> Dread Disease Survey

Gen Re LifeHealth, Hong Kong, released its fourth *Dread Disease Survey*. This survey, which covers the period of 2000 to 2004, looks at the product and portfolio experience of China, Hong Kong, Malaysia, Singapore, South Africa and United Kingdom. It investigated over 100 million life years exposure and 260,000 claims in total.

> Neoplastic Diseases

This publication covers all major and common neoplastic diseases which are of relevance to the underwriting process.

> Risk Matters

January – On 9 January 2008 the ABI published guidance on the fair treatment of claims for UK life, critical illness, income protection and other long-term insurance contracts (Guidance). This article reviews the implications of the Guidance, from a claims management perspective and provides suggestions for future action by insurers.

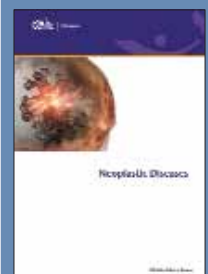
February – This edition of *Risk Matters* is an extract taken from a comprehensive study of telephone underwriting undertaken by Gen Re LifeHealth in the UK.

March – This LTC Quarterly Digest reviews the last quarter's published literature on long term care selecting those studies that are most relevant to the LTC insurance market, particularly for underwriters and pricing actuaries who are looking at the major risk factors for underwriting assessment and claims management.

April – The report from the Association of Public Health Observatories in December 2007 received a great deal of publicity as it highlighted the growth in hazardous drinking.

> 360° Expand your risk horizon with us

Our image brochure for Asia, Australia, Africa, Europe and Latin America informs you of our complete range of service: from reinsurance, actuarial expertise, underwriting, claims management, a rehabilitation service and basic and further training to asset liability management. 360° risk management: so that the whole is more than the sum of its parts.



Inside Gen Re LifeHealth

Our Publications (cont'd)

North America

> How Critical Illness Insurance Can Help Your Clients Watch the Gap

Gen Re LifeHealth produced a PowerPoint presentation for our Critical Illness clients for them to customize their company's corporate brand. The presentation will be utilized by their marketing departments to educate and train their sales force in the Critical Illness product.

> Group Life Market Survey

JHA released the results of its annual benchmark study on inforce and sales premium for group term life and voluntary term life insurance. Thirty-two companies participated in this survey.

> Group Disability Market Survey

JHA released the results of its annual benchmark survey on inforce and sales premium for Long Term Disability (LTD) and Short Term Disability (STD) insurance. Twenty-seven companies participated in this survey.

> Individual Disability Income Market Survey

JHA released the results of its annual benchmark survey on inforce and sales premium for Individual Disability Income insurance. Fifteen companies participated in this survey.

> 2008 JHA Disability Fact Book

JHA released the fifth edition of this bi-annual publication exclusively to clients. The Fact Book is used as a reference tool for quick and easy access to important information about the disability industry with hundreds of disability charts, graphs and facts.

> A 360° Perspective. We Can Help.

Our new brochure provides an overview of how Gen Re LifeHealth can help clients through both product and service solutions. It highlights our 360° approach to meeting our clients' risk management needs. In addition, product-specific flyers are available for CI, Disability and Group Life.



Inside Gen Re LifeHealth

Industry Meetings

North America

- > **Jim Greenwood**, Senior Vice President, Individual Life Reinsurance, presented on “Mortality Risk Management” at the Economists’ 2008 Insurance Leaders Roundtable during March 2008 in New York City. The Roundtable brought together senior executives and thought leaders from key sectors of the industry to discuss and debate the impact of the global economy on the insurance industry, the outlook and strategies for growth in the main sectors, and the risks insurers face from the relentless pace of globalisation and consolidation in the industry.
- > **Laura Vecchione**, Managing Director, Second Vice President, Medical Director, presented on “Incidentalomas” at a workshop during JHA’s Dynamics of Disability Seminar, March 2008 and during the Metropolitan Underwriters Discussion Group Annual meeting in New York City in January 2008.
- > **Thomas Ashley**, Managing Director, FCAP, Vice President, Chief Medical Director, will be presenting on “How Life Companies use Cognitive Function Tests” at the Ohio Home Office Life & Health Underwriters Association (OHOLHUA) in Deer Creek, Ohio on June 6, 2008 and at the Southeastern Actuaries Conference (SEAC) in Amelia Island, Florida on June 18, 2008. In January 2008 he presented on “Cognitive Test Choice for Elderly Life Insurance Applicants” at the SOA “Living to 100” meeting in Orlando, Florida.
- > **Adela de Loizaga Carney**, Managing Director, Second Vice President, Medical Director, presented on “The Goblin and the Globulin” regarding Monoclonal Gammopathies to the attendees of the Northeast Home Office Underwriters Association (NEHOUA) meeting in October 2007 in Worcester, Massachusetts.
- > **Tony Forte**, Vice President, Risk Management, will be a co-presenter on “Wait, Wait, Don’t Rate Me” with Jordan Carreira, Vice President, Lincoln Financial Group during the June 2008 South Eastern Home Office Underwriter’s Association (SEHOUA) in Ponte Vedra, Florida.
- > **Gene Dean**, Vice President, Chief Facultative Underwriter will be presenting on “Motivating New and Seasoned Underwriters” at the Association of Home Office Underwriters (AHOU) June 2008 annual meeting in South Beach, Florida.
- > **Neal Jones**, ALHC, CEBS, Assistant Secretary, Claims, presented on “Reinsurance 101 and the Claim Audit” to attendees of the International Claim Association meeting during September 2007 in Kissimmee, Florida. Neal also moderated a roundtable discussion of the Eastern Claims Conference in New York in February. Representatives from 11 reinsurance companies shared their common areas of interest. The conference covered claims topics in Life, Accident & Health, Medical and Disability. It drew 750 attendees and attracted a worldwide audience.
- > **Vadim Marchenko**, Second Vice President, Actuary, participated as a panelist in the Financial Research Associates Investors Summit on the Secondary Life Market in January 2008.



Jim Greenwood



Laura Vecchione



Thomas Ashley



Adela de Loizaga Carney



Gene Dean

Inside Gen Re LifeHealth

Industry Meetings (cont'd)



Barry Eagle



Steve Rowley



Kevin Riley



Drew King



Stacy Varney

- > **Barry Eagle**, Vice President, Marketing, moderated a claims panel on critical illness at the World Critical Illness Insurance Meeting in Toronto, April 27-30, 2008. Barry also presented with **Steve Rowley**, Vice President, Risk Management, on “Critical Illness and Long Term Care Combination Marketing” at the Long Term Care International Forum, May 7-9, 2008
- > **Steve Rowley**, Vice President, Risk Management, will be presenting on Critical Illness Insurance in a presentation “Watch the Gap” at the Southeast Actuaries Conference (SEAC) on June 18 and 19, 2008.
- > **Vincent DeMarco**, Vice President, Individual DI Reinsurance, delivered the results of a producer survey developed and conducted by JHA’s research department at Union Central’s National Sales Conference on March 10th in Florida.
- > **Kevin Riley**, Senior Vice President, LTD Risk & Account Management, presented a Disability Marketplace Review for AIG’s Southeast and Northeast Sales Meetings in March and April.
- > **Drew King**, Senior Vice President, Disability & Group Life Division, Gen Re LifeHealth and President, JHA, presented at OneAmerica’s National Sales Conference on February 12 in Tampa, Florida on “Group Disability: From the Outside Looking In”.
- > **Stacy Varney**, Vice President, Marketing & Business Development, delivered a two-hour Continuing Education Program on “Disability Insurance: Perspectives for All Sides” to OneAmerica’s key producers and local sales office staff in Charlotte, North Carolina on April 23.
- > **Jena Breece**, Second Vice President, LTD Actuarial, will present at the Spring meeting of the Society of Actuaries in May on “The Politics of Disability Insurance”.

To change an address, or add or remove a person from the *Risk Insights* mailing list, please contact your account executive or representative at Gen Re. For additional information, please contact the authors at the following addresses:

Louis Rossouw

General Reinsurance Africa Ltd.
3rd Floor, Block A, West Quay Office Block
West Quay Road
V&A Waterfront
Capetown 8001
e-mail: lrossouw@genre.com

**Dr. Robert Ostermann-Myrau
Jürgen Warstat**

Kölnische Rückversicherungs-Gesellschaft AG
Theodor-Heuss-Ring 11
50668 Cologne
e-mail: juergen.warstat@genre.com
e-mail: robert.ostermann-myrau@genre.com

Dr. Wolfgang Droste

Cologne Reinsurance Company plc.
Hong Kong Branch
Suite 6801-03, 68/F Central Plaza
18 Harbour Road
Wanchai, Hong Kong
e-mail: wdroste@genre.com

Kevin Uryase

General Re Life Corporation
Financial Centre
695 East Main Street
Stamford, CT 06904-0300
e-mail: kuryase@genre.com

Anne Gregory

General Reinsurance Life UK Limited
Corn Exchange
55 Mark Lane
London EC3R 7NE
e-mail: anne.gregory@genre.com

PRIOR ISSUES

General Issues (February 2008)
Mortality (November 2007)
Medical Issues, Part 2 (August 2007)
Medical Issues, Part 1 (May 2007)
Long Term Care Insurance (February 2007)
Disability Insurance, Part 2 (November 2006)
Disability Insurance, Part 1 (August 2006)
Dread Disease/Critical Illness Insurance (May 2006)
Infectious Diseases (February 2006)
Mortality (November 2005)
Reinsurance Issues (August 2005)
Simplified Issue Insurance (May 2005)
Specialized Products (February 2005)
Avocations and Occupations (November 2004)
Elderly Risks (August 2004)
Terrorism (May 2004)
Group Insurance, Part 2 (February 2004)
Group Insurance, Part 1 (November 2003)
Electronic Underwriting Technologies (August 2003)
Longevity (May 2003)
Claims (February 2003)
Financial Underwriting (November 2002)
Long Term Care Insurance (August 2002)
Dread Disease/Critical Illness Insurance, Part 2 (May 2002)
Dread Disease/Critical Illness Insurance, Part 1 (February 2002)
Insurance For Elderly Lives (November 2001)
Life Insurance (August 2001)
Disability Income Insurance, Part 2 (May 2001)
Disability Income Insurance, Part 1 (February 2001)
Substandard Underwriting (November 2000)
Financial Risk Management (September 2000)
Integrated Benefits (July 2000)
Bancassurance (May 2000)
Direct Marketing/Internet (February 2000)
Health Insurance, Part 2 (November 1999)
Mortality Trends (September 1999)
Health Insurance, Part 1 (August 1999)
Electronic Technologies (May 1999)
Dread Disease/Critical Illness Insurance (February 1999)
Long Term Care Insurance (November 1998)
Financial Risk Management (September 1998)
Smoker/Non-smoker Issues (August 1998)



The people behind the promise.

Kölnische Rückversicherungs-Gesellschaft AG

Theodor-Heuss-Ring 11
50668 Cologne, Germany
Tel. +49 221 9738 0
Fax +49 221 9738 494
www.genrelifehealth.com

Editors:

*Paul Lewis, plewis@genre.com
Therese Droste, drostet@genre.com
Ulrich Pasdika, ulrich.pasdika@genre.com*

*Photos: © Getty Images/Realistic Reflections; mauritius images:
imagebroker/MedicalRF.com/corbis/Tetra Images*

© Kölnische Rückversicherungs-Gesellschaft AG 2008

This information was compiled by Kölnische Rückversicherungs-Gesellschaft AG 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.