Critical Illness Insurance

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«Critical illness insurance has been developing markedly over the last few years. Innovations that have recently been introduced in the design of this type of insurance vary from one market to another.»

Critical illness insurance began in South Africa at the beginning of the Eighties. It was then that the insurer Abbey Life introduced the first critical illness cover linked to life insurance. At the present time critical illness insurance has been solidly implemented in Great Britain, South Africa, Australia, United States and some Asian markets such as Hong Kong, Malaysia or Singapore.

Critical illness insurance has been progressively introduced into our country in the last few years. While it still has not reached high levels of uptake with regard to number of policies or premium income, it can be said that the desirability of this cover has led many companies to show an interest in underwriting this type of insurance.

PRODUCT FEATURES

The two traditional types of insurance through this product are an advance on the death benefit and the provision of an independent lump sum. The first case is more commonly employed by life insurance companies, in this case the critical illness insurance is linked to a life insurance policy and the benefits consist of making an advance of the total or partial sum of the principal death benefit in the case of the occurrence of one of the covered illnesses. The advanced sum is usually some 25%, 50%, 75% or 100% of the policy payout value.

In the form of a lump sum, the insurance company - in the case of critical illness - will pay the beneficiary of the insurance a capital sum. Some companies in the last few years have substituted an annuity, either actuarial or financial, for this lump sum.

In addition to marketing it as an addition to life insurance or as an independent cover, some health insurance companies have introduced critical illness cover in expense reimbursement products, either by increasing the partial limits of general reimbursement in case of contracting one or other of the illnesses specified in the policy, or by designing specific products for expense reimbursement due to critical illness. In some cases the payment of a lump sum on contracting a critical illness is combined with the reimbursement of medical expenses when these exceed the capital sum that has been awarded.

In markets that are more developed in this type of insurance, it has been seen that anti-selection can be an important factor to be taken into consideration. For this reason it is relatively frequent that policies include an exclusion period of between three and six months; a different exclusion period can be set for each critical illness. This exclusion period is eliminated in claims resulting from accidents.

A survival period of normally 30 days is included in almost all critical illness policies sold on the basis of a lump sum, so the compensation will be paid if the policyholder survives this period after the loss takes place. The main reason for the inclusion of this survival period is that it is intended that the beneficiary of this cover should be the policyholder and not his or her heirs. It is thereby ensured that the payment of the capital is for the personal benefit of the insured. In addition to this, the cost of critical illness insurance is reduced as are the possibilities for fraud or dubious claims.

ILLNESSES

The critical illnesses that have traditionally been covered are cancer, heart attack, stroke and coronary artery bypass. These are the most common pathologies and constitute at least 85 % of the insurance cost.

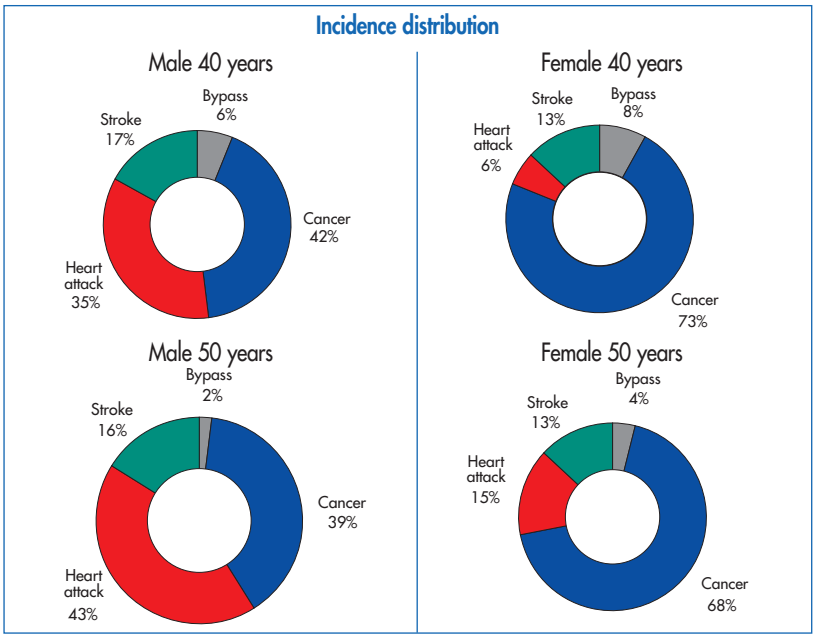
The following charts show the relative rates of incidence of each one of the four critical illnesses as a percentage of the total, by age and sex.

It can be seen in this relative global incidence by age, in men, that:

1. Cancer is the illness with the greatest proportion of the total in the first chart (40 years), and heart attack in the second (50 years). Cancer is the most frequent illness in the whole range of ages except in the age range from 44 to 57 years, where it is the heart attack.

2. Together, cancer and heart attack account for more than 75 % of the joint incidence of critical illnesses for ages of more than 38 years.

3. The incidence of coronary artery bypass tends to decrease with age, whilst that of stroke



accident stays relatively similar for all ages.

If the relative distribution of global incidence for women is analysed, it can be seen that:

1. The illness with the greatest incidence is cancer, with 73% and 68% respectively, followed distantly by stroke with 13%.

2. The relative incidence of heart attack increases significantly with age, to become the second most common illness after 49 years.

3. As is the case in men, the relative incidence of coronary artery bypass tends to decrease with age.

It is very important to correctly define illnesses at the design stage of a product. The correct definition of what is subject to compensation with each illness will avoid problems when it comes to determining whether or not there is a critical illness and, consequently, possibly exempt the company from the obligation to compensate in the case of a claim. The most usual definitions that are widely used in order to delimit each of the illnesses are:

Myocardial infarction – heart attack

Death or necrosis of a part of the cardiac muscle as a result of a sudden interruption of the blood supply to the affected area. The diagnosis should be confirmed by:

1. A history of typical chest pains.

2. New changes in electrocardiograms.

3. Increases in cardiac enzymes.

Cancer

Malignant tumour characterised by the uncontrolled growth and spread of malignant cells and invasion of tissues. This should be confirmed by histological analysis. Excluded are: non-invasive localised cancer, tumours caused by the human immunodeficiency virus and any type of skin cancer, with the exception of malignant melanoma. Included are, lymphoma, Hodgkin's disease and leukaemia, with the exception of chronic lymphocytic leukaemia.

Stroke

All cerebrovascular accidents with a duration of greater than 24 hours producing persistent neurological effects of more than 15 days. The cover includes cerebrovascular accidents produced by cerebral tissue infarction, intracranial haemorrhage and embolism produced by an extra cranial source.

Coronary artery bypass

This is open-heart surgery carried out in order to correct a stenosis or blockage of two or more coronary arteries which should be diagnosed by coronary angiography, non-surgical techniques such as angioplasty or laser techniques are excluded.

Other illnesses

At the present time many insurance companies are searching for factors to differentiate their critical illness products as compared with their competition with the introduction of new ailments, despite the fact that their incidence, and therefore their effect on the price is minimal with respect to the main four illnesses that have already been mentioned. These additional ailments that may be included in critical illness insurance include: multiple sclerosis, transplant of vital organs, paralysis, blindness, cardiac valve surgery, aortic graft, balloon angioplasty, serious burns, loss of members, loss of speech, loss of hearing, coma, motor neurone disease, HIV acquired from occupational sources, HIV acquired from blood transfusion, Alzheimer's disease, Parkinson's disease or benign brain tumour.

ACTUARIAL ASPECTS

Obtaining statistics

In order to calculate premiums for critical illness insurance it is necessary to obtain rate of incidence values for each ailment that will be covered, and in addition to this - for the option of advance payment on a life policy - the rate of death with respect to each of the critical illnesses and probabilities of death.

Obtaining incidence rates for the insured population

In order to obtain the incidence rates to be applied to the insurance, a number of factors must be taken into consideration about the basic available statistics, in such a way that certain adjustments must be made to these rates for them to be used. The incidence statistics must be obtained separately for each critical illness.

Firstly, and due to the characteristics of each country, the statistics used for one geographical area can not always be extrapolated to another since the incidence of diseases, the characteristics of each population group and their social customs are different. It is for this reason that incidence rates for the country where the product will be marketed should be obtained.

Secondly, it must be ensured that the ailments from which the basic statistics are drawn correspond with the exact definition given to the illness included in the insurance.

Thirdly, it must be certain that the available statistics are drawn exclusively from the first incidence of each illness. This is frequently not the case, since normally the original statistics show prevalence rates which must be adjusted in order to obtain first incidence rates. It may also be the case that corrections must be made to the incidence rates for those critical illnesses which do not systematically record those cases in which there has been sudden death.

Fourthly, the original statistics tend to refer to the general population and not to the insured population, these therefore do not take into consideration the effect of risk selection procedures nor the effects of any possible anti-selection which may have occurred. A correction factor should therefore be applied.

Fifth, in the case where there is a payout of a separate lump sum, the survival period specified in the contract should be taken into consideration. This information is never included in the initial statistics. For some illnesses, cancer for example, this correction may derive from the mortality tables used by the insurance company since the initial mortality of these diseases, from their diagnosis, does not tend to differ substantially from those obtained from the application of the tables for the insured population. In other cases, where the initial mortality is much higher than that of the tables used by the insurance companies, such as heart attack, complimentary studies should be used in order to suitably correct incidence by survival.

Lastly, consideration should be made of the date the original information was obtained and the development of incidence rates for each ailment through time in order that the initial information may be updated at the time when the premium rates are set.

In addition to these adjustments, the basic incidence rates are frequently grouped by age bracket, they must therefore be graduated using interpolation techniques in order to obtain information for the complete range of ages. In those cases in which it is not necessary to perform a graduation it may be necessary to soften the basic rates.

Obtaining the death rates for each illness and the probability of death in the case of advance sum payment

There do not tend to be any problems obtaining reliable data for death rates due to each critical illness; it is therefore not necessary to carry out corrections on the basic data. Frequently however these rates of death tend to be grouped by age bracket, making it necessary to carry out a graduation of these rates.

The most usual course of action in order to obtain probability of death is to use the mortality tables used for the principal life policy.

Premiums

The analysis of pure premiums by age and sex for the two types of insurance, advance and additional sum, considering cancer, heart attack, stroke, and coronary artery bypass, leads to the conclusion that:

1. Premiums, both in men and in women, grow exponentially with age.
2. After the age of 40, premiums for men increase much more than those for women due, fundamentally, to the increase in the incidence of heart attacks in the male population.
3. On average, premiums for advance sum payment insurance are 26 % lower in men and 22% lower in women than those for additional sum payments.

LATEST TRENDS

Critical illness insurance has been developing markedly over the last few years. Innovations that have recently been introduced in the design of this type of insurance vary from one market to another, but they may be summarised as:

- Changes in the quantity and manner of receiving the payout.
- Increase in the range of illnesses covered.
- The adding of certain services such as rehabilitation in order to facilitate the recovery of the insured suffering from a critical illness.
- The design of products or covers for specific groups. Some countries have seen the introduction of critical illness insurance for old people, for women or specific covers for specific ailments in babies.
- The introduction of accident or health (expense reimbursement) cover in critical illness insurance. ■