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The Design and Pricing of Critical Illness Insurance

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Critical illness products have become more commonplace in recent years. The first critical illness benefits offered in the United States were riders to life policies. This article discusses critical illness benefits offered as stand-alone accident and health policies.

1.1 Product Design

Critical illness coverage usually consists of a lump sum benefit payable upon the occurrence of one of a carefully defined list of diseases, medical events or sometimes disability. Most products cover at least life-threatening cancer, heart attack and stroke. Other illnesses and events covered include renal failure, major organ transplant, coronary artery bypass surgery, multiple sclerosis, muscular dystrophy, coma, Alzheimer's disease, Parkinson's disease, loss of a limb, loss of hearing or sight and total and permanent disability. Partial benefits may be payable for some diseases or events, but the policy would limit the total amount payable to a specified amount.

Some policy designs require a survival period; that is, the covered person must survive for some number of days (say 30 or 90) after the occurrence of an event before benefits are payable. Other product designs include a recurrence benefit where subsequent benefits are available after a first occurrence. These recurrence benefits might not be available for a certain time period after the initial payment or they may be payable only for diseases not related to the initial disease. Critical illness products can also be designed based

on a hospital confinement benefit with other indemnity benefits payable for certain treatments.

An important part of the policy design is a careful definition of the illnesses covered. For instance, life-threatening cancer is usually defined to exclude skin cancer and carcinoma-in-situ. If the policy pays partial benefits, then skin cancer and carcinoma-in-situ may be payable at a small percentage of the policy maximum. The definition of a stroke should be strict enough to exclude transient ischemic attacks and other cerebrovascular accidents of minor consequence. In general, the objective is to define illnesses and events strictly enough so that benefit payments are made when the condition is severe enough to result in significant medical costs or a severe change in the covered person's lifestyle. Still, the definitions should not be so strict that benefits are not payable in those situations where common sense might suggest they should be.

Some regulatory jurisdictions object to the lump sum payment benefit, and gaining approval for an individual product in these jurisdictions may not be possible. Most of these objections are based on insurance department guidelines and not on laws or regulations, so that there is some chance that this situation will change as acceptance and understanding of the purpose of this type of benefit grows.

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1.2 Morbidity Assumptions

Since morbidity under a lump sum benefit design is based on incidence rates only, the severity is defined by the size of the single payment. When information on population prevalence rates is available for a particular disease, the actuary needs to take care to transform these into incidence rates using information on survival after onset of the illness. When using existing company data from other types of coverage, care must be taken to consider the effect that the lump sum design might have on incidence. For instance, an existing medical policy might pay relatively little benefits for a mild heart attack where there is no hospitalization and limited treatment. However, that same incident might result in a large lump sum benefit payment under critical illness coverage, and a covered person would be more motivated to file such a claim. Estimating the effect of any survival periods or recurrence benefits will require some information on survival rates and longevity after the onset of an illness.

The definition used for the covered illnesses in the critical illness policy will usually be more restrictive than the definition used in published information, and the effect of the policy's definitions must be considered. Just as in estimating the effect of underwriting on resulting experience, estimating the effect of a policy's definitions can be difficult. A conservative approach is called for until sufficient insured experience develops.

One will find that there is a

great amount of information available from government health agencies and medical literature, and sorting through it to understand the differences and applicability of the information can be a daunting task. Assistance from reinsurers, actuarial consultants and medical professionals is extremely valuable.

1.3 Marketing and Underwriting

Critical illness products can be designed for use in markets where other supplemental health products are successful. Since the coverage provided by critical illness insurance is broader than that provided by most other supplemental health products, premium rates are higher and the underwriting is more complex. This makes critical illness products difficult to design for a market where lower premium rates and simple underwriting is necessary.

Products may also be designed for the higher income market where the lump sum payment can be as high as \$500,000 or more. The degree of underwriting can vary greatly depending on the market and the benefit amounts available under the policy. Ratings and exclusions can be used and are more common for the higher benefit products. Premium rates generally vary by tobacco use, but not always by sex.

Underwriting will also vary depending on which illnesses and medical events are covered under the policy. For many markets and distribution approaches, and when



the expected average benefit amount is in the \$10,000 to \$30,000 range, simplified issue and accept/reject underwriting may be used. Here, high blood pressure might be accepted until two or three medications are taken or when present in combination with other conditions. Similarly, diabetes will be accepted unless it is not controlled or if present with other conditions. Past history of cancer might be a reject, or an exclusion endorsement may be used. Persons with a past history of abnormal cancer screening test readings may be reviewed more carefully.

The underwriting approach for higher benefit products will be very similar to that used for higher face amount life insurance products. For such products, a system of debits and credits will be used, family history is usually developed, the MIB is used, attending physician statements may be requested, and medical exams and laboratory tests are common. Decline rates can be 20 percent or higher for the higher benefit products.

Critical illness insurance is still a relatively new insurance product and insurance companies are still experimenting with product designs and underwriting approaches that will fit their particular markets and distribution channels.

