Non-Cancellable Accident and Health Insurance Underwriting Problems.

BY

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I. Development of Non-Cancellable Insurance.

Ten years ago not a single American company was issuing Non-Cancellable Accident and Health insurance and those few underwriters who even considered the possibility of ultimately granting such coverage were regarded as impractical idealists. In October, 1915, the attention of this Society was directed towards the possibilities of Non-Cancellable Accident and Health insurance but the discussion was apparently considered by practical insurance executives as largely academic.

Today at least nine American companies are issuing Non-Cancellable Accident and Health insurance and more and more salesmen are insisting that they must be in a position to give this coverage to their clients. At the annual meeting of the Bureau of Personal Accident and Health Underwriters in March, 1921, a joint report on Non-Cancellable Disability Insurance by two committees of underwriters and actuaries formed the chief topic of discussion and the recommendations contained in that joint report are now being studied by insurance executives in connection with their plans for meeting the new situation.

The Non-Cancellable policy has been issued by American companies since 1915, but its development has been most rapid in the last two years. In one company it first took the form of a Non-Cancellable Accident and Health policy providing monthly indemnity for total disability up to age 70, issued only in conjunction with Life insurance and with a deferred Annuity. Now the deferred Annuity is practically forgotten and although the Non-Cancellable Disability policy is frequently issued with Life insurance, it is also freely sold by commercial companies which have no Life insurance department. In the Non-Cancellable contract emphasis has been placed on indemnity for total disability but many policies also provide a lump sum in case of death by accidental means and a few provide specific indemnities for dismemberment or loss of sight.

Some underwriters look upon the Non-Cancellable form as a dangerous innovation, removing from the insurance company its last defense against the fraudulent claimant and undermining public confidence in the well-established commercial business. Many regard it as a necessary side line which must be furnished to certain individuals who insist upon permanent coverage but they expect that commercial contracts will continue to be the mainstay of the Accident and Health business. Others are convinced that the Non-Cancellable policy fulfills a genuine public need, that it covers a slightly different field from the commercial policy and that it is destined to be one of the most important lines of personal insurance. The only question in their minds is—Will the new field be covered as Casualty insurance or as Accident and Health benefits with Life insurance?

II. Accident and Health Benefits with Life Insurance.

The most striking improvement in the Life insurance contract during the last two decades has been the development of a Disability benefit as an integral part of Life insurance. Twenty years ago only one American Life insurance company issued a Disability clause. Today only two of the principal companies refuse to grant a Disability benefit and over 200 offer some form of Disability coverage with Life insurance. This growth has undoubtedly been due to two causes—first, as a selling proposition the Disability benefit offers the prospect something for himself; second, there is a genuine need for Life insurance which recognizes that loss of earning power by death is no more serious than loss of earning power by injury or sickness. In fact, however great may be the family need after the death of the wage earner, the need is even greater if he still lives but is deprived of his earning power and lingers as an invalid year after year.

Partly because of legal restrictions and partly because the Disability benefit has been considered merely an incident of Life insurance, the Disability clause has covered only *permanent* total disability; but the definition of permanent total disability has been continually liberalized. At the same time the benefits obtainable in case of such disability, occurring before a specified age, usually

60 or 65, have been greatly increased. Starting with a provision that, in case of total disability which has lasted one year and is then presumably permanent, future premiums will be waived, the benefit has been liberalized until now at least one company provides that any total disability which has lasted three months will be considered permanent within the meaning of the policy and that payments will begin even within the three months' period if the total disability is then classified as permanent. Under these conditions the disabled Insured receives $10 a month per $1,000 of Life insurance without reduction in the amount payable to the Beneficiary. Another company provides in certain states monthly indemnity of either $10 or $20 per $1,000 with payments for the entire period of total disability with the exception of the first two weeks. It is, therefore, apparent that even now Life insurance companies have covered the major portion of the field of total disability.

At the same time Life insurance companies have introduced a provision that in case of death by accidental means before a limiting age, usually 70, the face of the policy will be doubled. This provision was at first attacked even more vigorously than the permanent total Disability benefit as a function of Life insurance but its popularity with the insuring public has swung company after company into line until now a majority of the Life insurance companies grant some form of Double Indemnity in case of death by accidental means.

Now that Life insurance companies provide additional sums for death by accidental means and cover permanent total disability with a comparatively short waiting period and with an increasingly liberal interpretation of what constitutes permanent total disability, the purchaser may obtain in one contract both Life insurance and the most essential portion of the coverage granted under commercial Accident and Health policies.

III. Commercial Accident and Health Insurance.

Commercial Accident insurance as distinct from Health insurance has been successfully issued in this country since about 1864. It has proven satisfactory to policyholders and profitable to the insurance companies. As the companies have acquired greater confidence in their ability to underwrite this business on a reasonable basis, they have gradually liberalized the contracts. In particular, the period of total disability covered by the policy has been increased from 26 weeks to 52 weeks and then to 200 weeks. Now, with the limit entirely removed, indemnity is payable for the whole period of total disability. A smaller indemnity, usually 50 per cent., is paid for partial disability for a period not exceeding a definite limit, for instance, 26 weeks. Specific sums are paid for loss of life, limb or sight. For certain favored accidents the benefits are doubled, tripled or even quadrupled, for instance, "if the injuries are sustained while a passenger in or on a public conveyance provided by a common carrier for passenger service."

Health insurance as issued by commercial companies dates from about 1897 and has not been entirely satisfactory to the public or profitable to the companies. Just as in the case of Accident insurance, the benefits have been liberalized and the coverage extended from 26 weeks to 52 weeks and finally to the entire period of disability. At the same time the conditions under which full indemnity is payable have been liberalized. A short time ago Health policies covered only total disability, full indemnity being payable for house confinement and partial indemnity for non-confinement with a limit of 52 weeks. Now policies are issued providing full indemnity for life for total disability, whether confined or not confined, and smaller benefits for a limited period for partial disability such as loss of one-half of the Insured's business time. The full effect of these more liberal provisions will probably not appear in the claim records until this business has become more mature.

Although most companies have made a profit on their commercial Accident business, commercial Health insurance has on the whole been unprofitable. Partly on this account and partly because of the Influenza epidemic of 1918 Health insurance premiums have been increased, but it is doubtful whether the increases in premiums have kept pace with the liberalization of the contracts. Most companies have refused to issue Health insurance except in conjunction with an equal amount of indemnity under an Accident policy and have usually encouraged the sale of Accident insurance as distinct from Health insurance by sales literature, contests and even extra commissions and bonuses.

Both Accident and Health policies on the commercial form have been issued for a term of three, six or twelve months subject to renewal at the option of the company up to age 70 for Accident insurance and age 60 or 65 for Health insurance. Under these commercial policies, even though the coverage runs for not more than twelve months, the companies have felt obliged to protect themselves by reserving the right to cancel the insurance within the term. The principal causes of cancellation are:

1. Misstatement in original application,
2. Impaired physical condition,
3. Material reduction in earnings,
4. Repeated claims for recurrent types of disease,
5. Unsatisfactory moral hazard.

In case of cancellation the company pays in full any valid claim for disability incurred before the date of cancellation but avoids any liability for further claims on that risk.

Under both Accident and Health policies it is customary to review each case carefully at least once a year and to cancel those risks which do not appear to come up to the company's standard. In practice, this right of cancellation is exercised much less frequently under contracts giving only Accident protection than under policies giving Health insurance. Although this right to cancel the insurance is a privilege clearly reserved to the company in the contract and is exercised only when the company feels that the policyholder does not come up to its standard, the person who finds himself thus deprived of his insurance protection just at the time when he is most likely to receive substantial claim benefits may cherish a feeling of resentment against the company, its field representative and the Accident and Health idea.

Another weakness of the commercial policy as now issued is the high rate of voluntary discontinuance on the part of policyholders. Too frequently the insurance has been bought as a temporary sporting proposition and if no accident or illness occurs within a year or two, the policyholder, feeling that he has no permanent interest at stake, is liable to drop the insurance. Moreover, the policies have been sold at a flat rate regardless of age at issue and therefore a new contract can usually be secured in another company on just as favorable terms as the old policy carried.

In an attempt to make the insurance more persistent, some companies have provided that the benefits shall increase each year for five or ten years from date of issue without a corresponding increase in the rate of premium, but this movement has merely led to the issuance of "fully accumulated" policies giving the full benefits from the first year. In fact, the Accident and Health contracts have been adjusted in such a way that it is comparatively easy for an agent or a broker to transfer business from one company to another without substantial loss to either the salesman or the policyholder. So far as the policyholder is concerned, the very ease with which a policy can be secured upon a simple application without medical examination makes it equally easy for him to forego the protection at a later date if his circumstances have altered even slightly.

Under these conditions the collection of a renewal premium may involve almost as much salesmanship as the securing of the original application and therefore the well-established practice is to pay the salesman practically the same rate of commission on renewal premiums as on first premiums. This has meant a comparatively high total expense rate and therefore a lower return to policyholders than would be possible if the business were more persistent.

In an effort to furnish the public with more permanent Accident and Health insurance at a lower expense rate, companies have now begun to issue Non-Cancellable contracts under which they guarantee to continue the protection up to the limiting age, usually 60 or 65, without the right to terminate the insurance even though the risk should in the meantime become seriously impaired.

IV. Policy Coverage.

Partly on account of the newness of the problem and partly as a reaction from the "frills" found in so many commercial policies, an attempt has been made to limit the coverage under the Non-Cancellable form to the one great loss—total disability caused by either accident or sickness. The Underwriting Committee of the Bureau of Personal Accident and Health Underwriters recommends that the Non-Cancellable policy should not cover partial disability for either injuries or sickness and should not provide indemnities for medical or surgical attendance, hospital fees, dismemberment or loss of sight. Apparently the Committee is not in favor of granting double or triple indemnity for any accident.

Although Life insurance companies freely issue policies providing Double Indemnity in case of death from accidental means, the Underwriting Committee unanimously recommends that the Non-Cancellable policy should not provide a principal sum in case of death by accidental means. It is considered unwise to combine in one Non-Cancellable contract complete coverage for total disability from either accident or disease and limited coverage for a principal sum payable only in about 10 per cent. of the total number of deaths, namely, "if death results from bodily injuries directly and independently of all other causes through external, violent and accidental means."

Loss of life is covered under the commercial policies but it is customary for the companies to cancel the insurance if it becomes known that the policyholder is suffering from any serious organic trouble such as heart lesions or diabetes. It is felt that under these conditions a slight injury is liable to result directly or indirectly in death and that occasionally a policyholder who knows that he has a serious disease may be tempted to terminate his life under circumstances which make it difficult to prove suicide.

In a great many claims for death by accidental means disease has been either a primary or a contributing cause and there is always a danger that a court may hold that the company is liable even though the policyholder was in a weakened condition from some incurable disease and a trivial accident merely hastened his death. If the accident caused total disability and the company could discuss the claim with the policyholder himself, it would have a chance to make a fair settlement, but the company is at a decided disadvantage when the claimant is the policyholder's comely widow represented by an astute attorney. Because of the chance of heavy claims and troublesome litigation with dissatisfied claimants, the Underwriting Committee recommends that payments for loss of life should not be granted under the Non-Cancellable policy.

The principal function of the Non-Cancellable policy is therefore to provide monthly indemnity in case of total disability. The word "Indemnity" implies that there must be some loss suffered by the Insured. What is this loss? It is not pain and suffering, but rather the business time of the Insured. Because the contract is one of indemnity and the loss insured against is the Insured's time, it is essential that we cover only those applicants whose time is valuable and can also be measured by some workable standard. That standard requires that the applicant be engaged in a gainful occupation, and that the policy should cover only the period of the applicant's natural business usefulness. It is not feasible to issue a Non-Cancellable contract providing benefits at the old ages where it is impossible to distinguish disability caused by accident or disease from mere cessation from active duties because of old age.

In discussing whether the limiting age should be 60 or 65, one prominent underwriter recalled that according to statistics of the American Bankers' Association out of 100 persons starting at age 25 in good health 54 will at age 65 be dependent on others. As many persons become disabled between age 60 and 65 and as many more might feign disability in order to draw a pension from the insurance company, the Committee recommends that no policy should cover disability beginning after age 60. If disability begins before age 60, then benefits will be paid as long as the Insured lives and suffers total disability.

Non-Cancellable policies have been issued covering from the first day of total disability and also excluding the first week, two weeks, four weeks or three months of total disability. Although commercial policies are almost invariably sold with coverage from the first day, it is felt that under the Non-Cancellable policy this presents too great an opportunity to the policyholder to make repeated claims, particularly if he can persuade his physician that his health requires him to spend a few weeks in Maine during the summer and in Florida during the winter. It is also felt that under a contract providing permanent protection the policyholder is fully able to take care of himself during the first two weeks and that the person who buys the contract in good faith will prefer a somewhat lower premium for a contract providing coverage after a reasonable waiting period. The Underwriting Committee, therefore, recommends that the policies be issued with a waiting period of two weeks, four weeks or three months. Although the policy with three months' elimination is practically unknown in the commercial field, it has proven popular on the Non-Cancellable form. Its purpose is not to cover temporary ailments but to indemnify for protracted illnesses or disabilities causing serious loss of earning power and heavy expense.

V. Rate of Disability.

Under commercial policies it has been customary to compare losses incurred with premiums earned but some companies have recognized that with benefits and premiums constantly changing, a better standard must be found not only for Non-Cancellable policies but also for the commercial. This better standard involves the "rate of disability" in number of weeks of disability per person per annum. Usually this rate of disability has been given according to the age attained while the person was disabled regardless of when disability began. Strictly speaking, however, the disability should be arranged according to the age at which disability began and should show how much of this disability was experienced in each of the first 13 weeks after disability started, how much in the second three months, and how much in the first year, second year, etc. In American statistics now available comparatively little attention has been paid to the age of the Insured or to the time elapsed from the original date of issue. There is evidence, however, that under commercial policies as issued in the past the rate of disability due to accident has increased only slightly with the attained age and the rate of disability from sickness has remained almost constant up to age 50 and has then increased moderately to age 65. It is probable that under the more liberal commercial policies now being issued the rate of disability will increase more rapidly with the attained age, particularly on Health policies paying full indemnity for life whether confined to the house or not confined.

The development of Non-Cancellable insurance is so recent that no reliable American experience is available and we are tempted to try to estimate the rate of disability by comparison with the actual experience on commercial policies. As commercial policies are usually issued without medical examination and as the Non-Cancellable policies are issued with a strict medical examination in every case, the rate of disability on the Non-Cancellable policy in the first year or two after issue should be more favorable than on the commercial contract. As a partial offset to this advantage, however, it should be noted that even under the commercial policies a medical examination is required if anything unfavorable is revealed in the application or other sources of information, and that commercial health policies do not cover sickness beginning within 15 days after issuance.

The great distinction between the two contracts is of course the cancellation provision. In commercial policies this right to cancel has undoubtedly removed from the companies' experience a great many impaired lives, particularly at the older ages, and therefore under the Non-Cancellable policies the rate of disability will increase much more rapidly with attained age than under the commercial contracts. In order to estimate the rate of disability under a Non-Cancellable policy from the actual experience under commercial contracts, let us make the following assumptions:

1. That the rate of disability in the first year will agree with the experience on commercial policies.
2. That the company cancels 1 per cent. of its commercial policies each year because the risk is impaired. The late Mr. Messenger in a paper on the Rate of Sickness presented to the Actuarial Society of America in May, 1908, stated that the Travelers' Insurance Company at that time declined to renew from 1 per cent. to 2 per cent. of the Health policies when the year expired.
3. That the rate of disability on policies cancelled because of impairment will be four times the rate on the normal lives not cancelled. It is doubtful whether any company would be willing to insure these cancelled policyholders even at four times the normal premium.
4. That none of these impaired risks will drop their insurance and that the mortality in this class will follow the Manchester Unity Experience.
5. That the rate of discontinuance including deaths among unimpaired lives under the Non-Cancellable policy will be 10 per cent. each year for five years, then reducing by ½ per cent. each year to 5 per cent. at the end of fifteen years, and then continuing at 5 per cent.

Applying these figures to a graduated Disability table based on experience on commercial Disability policies adjusted to pay indemnity for life for total disability whether confined or not confined, we derive the following figures for a person entering at age 35 and for another person entering at age 50.

ONE YEAR TERM PREMIUMS FOR INDEMNITY OF $10.00 A MONTH.

Age at which Disability Begins.	By Experience on Commercial Policies.	By Assumptions for Non-Cancellable Policies.	
		Age at Entry 35.	Age at Entry 50.
35.......	$2.05	$2.05	
40.......	2.09	2.51	
45.......	2.19	3.20	
50.......	2.76	4.74	$2.76
55.......	3.91	7.54	4.65
60.......	5.98	12.72	8.58

As many of the assumptions in the above table are entirely arbitrary, the figures should be used with the utmost caution. They merely indicate that the rate of disability under the Non-Cancellable policy may be entirely different from the rate under commercial policies and that under the Non-Cancellable contracts the rate of disability beginning at age 55 may depend largely on whether the policy was originally issued at age 35 or at 50.

Having failed to deduce any reliable rates of disability for Non-Cancellable policies from American Experience on commercial contracts, we naturally turn to the experience of companies in Great Britain where Non-Cancellable policies have been issued since 1885. These British companies have in turn based their premiums on the disability experience of a friendly society, the Manchester Unity, which has published the most elaborate and carefully prepared tables available on this subject.

Even though the conditions under which Non-Cancellable policies are issued in the United States may not agree with those of the Manchester Unity or even the British stock companies, it is essential that we have some standard Disability table as a guide and the only guide now available appears to be the Manchester Unity Experience which has proven its value in Great Britain and can be used in this country with perhaps slight modifications to make it more nearly conform to American conditions.

VI. Premiums.

Some companies, apparently influenced by the general practice under commercial policies, have issued Non-Cancellable policies at the same gross premiums for all ages at entry. Although this plan has worked fairly well in commercial business and the results on the Non-Cancellable form may appear reasonably satisfactory for a few years, while strict selection is still effective, it contains some of the inherent weaknesses of the old assessment plan of selling Life insurance, and because it means overcharging the young men and undercharging the old men, it must in time be abandoned in favor of a more scientific system of gross premiums based on age at entry, just as has already been done by American Life insurance companies in computing premiums for permanent total Disability.

As it is evident that the rate of disability under the Non-Cancellable policy will increase with the attained age, it is clear that the Company must either:

1. Issue the policy as a renewable Term with rate increasing at the end of each Term (for instance, one year renewable Term or five year renewable Term),

or:

2. Issue a long Term contract at a level premium sufficient to cover the rate of disability to the age of expiry.

As the renewable Term contract with constantly increasing premium would probably be unsatisfactory and would tend to encourage a high rate of discontinuance, particularly among the better risks, the proper course appears to be to issue a long Term contract at a level premium depending on the age at issue. The gross premium for each age at issue will then depend on:

1. The rate of disability assumed for each year up to the age at expiry.
2. The rate of mortality.
3. The rate of interest.
4. The loading required for expenses, contingencies and profits.

If we assume that the rate of disability and mortality will follow the Manchester Unity or some similar table and that the company can reasonably count on earning $3\frac{1}{2}$ per cent. interest for the entire duration of the policy, then the actuary will compute a set of net premiums which will be just sufficient to pay all claims if the company earns $3\frac{1}{2}$ per cent. interest and experiences the rate of disability assumed in the table. The expenses can be determined fairly accurately by an examination of the company's commercial business with proper allowance for the new conditions introduced by the Non-Cancellable form. It is expected that the total expenses will be lower than on commercial policies but higher than on Life insurance policies.

The rate of commission on the Non-Cancellable policy is somewhat uncertain. Companies with an organization for selling commercial policies may pay the General Agent 35 per cent. the first year followed by nine renewals of $17\frac{1}{2}$ per cent., but companies with a Life insurance organization may prefer to pay approximately 50 per cent. the first year followed by nine renewals of $7\frac{1}{2}$ per cent. As the latter schedule is approximately $7\frac{1}{2}$ per cent. lower than the first schedule, the company with a Life insurance organization, other things being equal, may feel justified in quoting gross premiums lower than those used by the company with a commercial organization.

The Underwriting Committee recommended a provision in the loading to cover the General Agent's commission and in addition the following items expressed as a percentage of the gross premium:

		Per Cent.
First Year—	Administration	15
	Taxes	3
	Claim Settlement	$2\frac{1}{2}$
	Medical Fees	$4\frac{1}{2}$
	Inspections	$2\frac{1}{2}$
	Total	$27\frac{1}{2}$
Renewal—	Administration	$12\frac{1}{2}$
	Taxes	3
	Claim Settlement	$3\frac{1}{2}$
	Contingencies and Profits	10
	Total	29

It seems doubtful, however, whether the $4\frac{1}{2}$ per cent. allowance for medical expenses will be sufficient and probably this figure should be 7 per cent., making the total for the first year 30 per cent.

Using these figures for general expenses and assuming commissions of 35 per cent. the first year followed by renewals of $17\frac{1}{2}$ per cent., the Committee obtained the following premiums:

NON-CANCELLABLE GROSS ANNUAL PREMIUMS FOR $10 A MONTH FOR TOTAL DISABILITY BEGINNING BEFORE AGE 60
SELECT AND PREFERRED RISKS.

Age at Entry.	Waiting Period.		
	2 Weeks.	4 Weeks.	3 Months.
20	$3.75	$2.98	$1.96
35	5.79	4.79	3.32
50	9.48	8.22	6.03

For a commercial Accident and Health policy giving practically the same coverage (excluding partial disability, double indemnity and surgical fees), but containing the cancellation clause, the gross premiums would be approximately:

Perhaps the best confirmation of the gross premiums recommended by the Committee is found in the rates actually charged by British companies which have had years of experience on the Non-Cancellable form. In general their policies are less liberal than those issued in the United States but cover all total disability sustained up to age 65 instead of 60 with no payment whatever after

COMMERCIAL GROSS ANNUAL PREMIUMS FOR $10 A MONTH FOR TOTAL DISABILITY BEGINNING WITHIN THE YEAR SELECT AND PREFERRED RISKS.

Attained Ages.	Waiting Period.		
	2 Weeks.	4 Weeks.	3 Months.
20–50......	$4.20	$3.50	$2.74
51–60......	5.10	4.25	3.33

age 65, even though disability may have started before 65. One company which has had some experience with the Non-Cancellable form is considering an upward revision of its premiums. British figures are not available for policies with waiting period of two weeks, or four weeks, but for a waiting period of three months they are as follows:

BRITISH NON-CANCELLABLE GROSS ANNUAL PREMIUMS FOR $10 A MONTH FOR TOTAL DISABILITY EXPERIENCED BEFORE AGE 65.

Three Months' Waiting Period.

Age at Entry.	Company A.	Company B (Old Rate).	Company B (Proposed Rate).
20.......	$2.62	$2.46	$3.29
35.......	3.96	4.37	5.82
50.......	7.57	8.58	11.43

Part of the premium is for accident benefits, but by far the greater portion is for sickness benefits. As the rate of disability from accident does not increase materially with the age, it is felt that any extra accident hazard may be covered by a constant addition to the premium for all ages at entry. If, however, there is reason to suppose that in certain classifications the rate of sickness will be higher than is provided in the gross premiums for first-class risks, it is probable that this addition to the rate of sickness will increase with the age in somewhat the same way as the standard rate of disability, and therefore this additional hazard should be covered by a percentage increase in the premium.

With these principles in mind, the Underwriting Committee recommended the following additions to the gross premiums quoted above for Select and Preferred risks:

ADDITIONAL GROSS ANNUAL PREMIUMS FOR RISKS ENGAGED IN OCCUPATIONS CLASSED HIGHER THAN "SELECT" AND "PREFERRED."

$10 a Month for Disability Beginning before Age 60.

	Waiting Period.		
	2 Weeks.	4 Weeks.	3 Months.
Physicians, surgeons, dentists, osteopaths and chiropractors	50% of "Sel." and "Pref." Rate	50% of "Sel." and "Pref." Rate	50% of "Sel." and "Pref." Rate
"Extra preferred" (except physicians, surgeons and dentists).....	$ 1.00	$ .80	$ .60
"Ordinary" (except osteopaths and chiropractors).................	2.00	1.60	1.20
"Medium"......................	4.00	3.20	2.40
"Special"......................	6.00	4.80	3.60
"Hazardous"...................	8.00	6.40	4.80
"Extra hazardous"	12.00	9.60	7.20
"Perilous" or "ex-spec. hazardous"	16.00	12.80	9.60
"Extra perilous".................	20.00	16.00	12.00

VII. UNEARNED PREMIUM RESERVES.

Having once established that the rate of disability increases with the age and that the premiums should be higher at the old ages than at the young ages at issue, it follows that if a flat level premium is charged for a person commencing at age 20 and continuing his insurance to age 60 a part of the premium charged in the early years must be set aside as a reserve to take care of the additional disability at the older ages. Furthermore, if the rate of disability will be higher at the older ages, it is probable that the administration expenses, particularly for claim settlements, will also be greater and a sufficient reserve should be carried to take care of not only the actual claim payments but also the extra administration and adjustment expenses involved in those payments.

Under commercial policies the unearned premium reserve is usually taken as 50 per cent. of the gross premium. The theory apparently is that under a 12 months' policy the insurance has on December 31 been in force on the average six months and therefore one-half the premium has been required for expenses and claims already paid or incurred and the other half should be retained to meet expenses and claims in the succeeding six months' period. In practice, however, the company collects a premium of $100 and at once pays out for commissions and other expenses approximately $40. This leaves $60 available for administration expenses and claims. If these items were evenly distributed throughout the year, then $30 would be required for the first six months and the remaining $30 should be held as a reserve on December 31 to cover the administration expenses and claims incurred during the second six months' period. Theoretically, therefore, the unearned premium reserve on December 31 should be $30, but it is customary to set aside $50. The law has in effect called for a gross premium reserve although the theory of the contract would more properly provide a net premium reserve with an additional reserve for those administration expenses which are distributed throughout the current year. The extra $20 does of course provide an additional margin of safety to cover any increase in the loss ratio at a later date when the business has become more mature.

Although the practice of setting aside a gross premium reserve on commercial policies is well established and has the sanction of law, it must be admitted that such a reserve is excessive and may cause unnecessary hardship to new companies building up a commercial business or even to old companies showing a large increase in premium income from year to year.

In developing an entirely new phase of the Casualty business such as the Non-Cancellable policy involving substantial reserves, it therefore seems much better to follow the actual incidence of expenses, particularly if the fundamental assumptions in regard to total disability and the rate of increase from year to year are conservative. The unearned premium reserve should, therefore, be based not on gross premiums but on net premiums with an extra reserve to cover those administration and adjustment expenses which go with a heavy rate of disability at the older ages.

VIII. Claim Reserves.

Under commercial policies with benefits limited to not more than 52 weeks, it has been comparatively easy for the practical claim adjuster to estimate the value of future claim payments but under a Non-Cancellable policy giving full coverage for as long as disability lasts, it is probable that there will be a much larger proportion of both accident and health claims of long duration. For instance, a person who is totally disabled because of Insanity at age 30 may live 20, 30 or even 40 years.

In a company with only a few of these claims, it may be advisable to consider the cause of disability in each case and estimate the probable duration. In disability of a temporary nature where disability probably will not exceed six months, the Claim Department can make a fairly close estimate but in claims where disability may run for several years, the future payments should be valued by some actuarial table—for instance, Hunter's tables showing the value of an annuity on a life which is totally and presumably permanently disabled.

As soon as the total number of claims is sufficient to produce a fair average, it seems better, however, to value both short and long claims on some adequate experience such as the Manchester Unity. In fact, it is desirable that any company with a sufficient volume of business in force should use for valuation of claims the same assumptions as were involved in the original disability tables on which gross premiums were constructed. Provided the number of claims is sufficient, this will insure adequate reserves and will enable the company more completely and more accurately to compare its actual experience with the rate of disability assumed in the original table.

IX. Surrender Values.

Having determined that unearned premium reserves should be set aside on somewhat the same principle as used by insurance companies for their Life insurance benefits and also for their permanent total Disability benefits, the question arises whether any part of this reserve should be returned to the policyholder in case of discontinuance.

It seems reasonable to expect that as we acquire more definite knowledge in regard to the experience under these policies a part of this reserve will be given to the discontinuing policyholder either in the form of cash or as an extension of his insurance coverage for a term of years or months, but at present our knowledge of the exact conditions is somewhat limited and it is probable that persons lapsing their insurance will exercise an option against the company, inasmuch as poor risks will cling to their insurance and sturdy persons who are unlikely to be sick will drop their insurance. It, therefore, seems better at present to retain the entire reserve as a margin of safety to take care of the adverse selection against the company on the part of withdrawing policyholders and the suspended disability which may later be incurred on those who remain.

X. Investments and Excess Interest.

As reserves on the Non-Cancellable policy will accumulate more rapidly than under commercial policies, the company's investment problem will be more important than it has been in the past and the funds should be invested with an appreciation of the fact that a large part of the money thus set aside is for use 5, 10 or even 20 years in the future.

Under commercial policies it has been customary to disregard interest in any underwriting statement and simply to compare losses incurred with gross premiums earned. The entire interest has been looked upon as an investment profit. Under the Non-Cancellable form, however, if the actuary assumes 3½ per cent. interest in his calculations of gross premiums and reserves, then the profit from investments will be only the excess of the actual interest earned over the 3½ per cent. assumed.

XI. General Underwriting Problems.

The problem of selling a large volume of Non-Cancellable Disability insurance on a profitable basis is most difficult. The underwriters have been trained for years to consider the insurability of the risk for a period of not more than one year and, in most of the mature business, claim payments at least on Health insurance have been limited to not more than 52 weeks, so that even if a mistake has been made by the underwriter, the experience is complete in two or three years and therefore any basic error can be adjusted without further loss.

In Life insurance most policies of long duration are issued on either the Life or Endowment form under which the reserve increases from year to year with a corresponding decrease in the company's net loss on any particular claim. On the other hand, a Non-Cancellable Disability policy issued, for instance, at age 30 resembles a 30 Year Term contract under which the reserve gradually increases to about age 50 and then decreases to nothing at age 60, the date of expiry.

Life insurance companies have in general refrained from issuing long Term contracts of this nature partly because the net amount at risk at age 59 is just as great as it is at age 30, and therefore an unfavorable experience in the later years would cause much heavier loss to the company than under an Ordinary Life policy or an Endowment with a smaller net amount at risk at age 59.

Under the Non-Cancellable Disability policy an unfavorable experience in the later years is even more costly because in the case of a claim beginning at age 59 the chance of recovery is much less than at age 30, and therefore the probable payments will be even greater than if the claim had occurred at an early age. It is, therefore, seen that although the Non-Cancellable policy resembles Life insurance in duration of the contract, there is this important distinction—in Life insurance the amount at risk in general decreases from year to year, and therefore the net loss on any one claim at age 59 on a policy issued at age 30 must be less than the net loss on a claim at age 30. In the Non-Cancellable policy, on the other hand, a claim incurred at age 59 will probably be more costly than the average claim incurred at age 30.

The Life insurance underwriter has the benefit of a fairly reliable mortality table for standard lives, for instance, American Experience or American Men, and he also has reliable statistics on sub-standard lives as well as the distinct advantage which comes through years of experience on the part of salesmen, medical examiners and company executives. The Non-Cancellable underwriter has hitherto been acting largely in the dark. It is suggested that he use the Manchester Unity Experience as a guide for standard risks but it is recognized that experience in this country may differ in a number of important respects. So far as sub-standard business is concerned, he has hardly any statistics of value. For commercial Accident insurance his guide has been the standard classification manual but the ratings in this manual are based on the experience of policies giving in general $1,000 of death benefit with $5.00 of weekly indemnity payable from the first day of disability. The manual is frequently unsuitable for a policy eliminating the death benefit and as it is based on an experience containing a large proportion of trivial claims for disability of short duration, it is not wholly reliable for a Non-Cancellable policy with a waiting period of two weeks or more.

In commercial Health insurance the field is singularly free from helpful statistics. Hardly anything is available to indicate the relative rate of sickness among various occupations or even among the various classifications covered in the classification manual. This absence of positive information in regard to the rate of sickness is particularly deplorable in a Non-Cancellable Disability policy under which accident claims will probably constitute not more than 15 or 20 per cent. of the total and by far the greater proportion of the losses will be for sickness.

Still another important distinction between Life insurance and the Non-Cancellable Disability policy should be noted. Life insurance is now regarded by the public as a necessity and the proportion of poor risks among applicants is relatively small. Accident insurance, although sometimes purchased for speculative reasons, has a distinct appeal to the strong as well as to the weak. Health insurance even yet is to a large extent disregarded by the robust and sought by those who instinctively feel that they are not quite up to standard. In time it is probable that the need of both Accident and Health insurance will be just as clearly recognized by the public as is now the case with Life insurance or Fire insurance, but at present there is undoubtedly a selection against the company among applicants for Health insurance. This selection against the company is likely to be particularly marked in the Non-Cancellable policy as the one person who fully appreciates the value of the Non-Cancellable idea is the one who has just had a commercial policy cancelled because of some physical or financial impairment, usually reflected in an exaggerated claim for disability.

Companies issuing Non-Cancellable policies with both a two weeks' waiting period and a three months' waiting period report that applicants even exercise a selection against the company in their choice of waiting period. For instance, an applicant with history of asthma is likely to choose the policy with two weeks' waiting period as he contemplates further attacks of asthma of relatively short duration; on the other hand, an applicant with a tendency to tuberculosis prefers a waiting period of three months under which he can obtain for a small premium a large amount of indemnity payable during what will probably be a prolonged illness.

The effect of changing conditions from year to year or from decade to decade is difficult to determine in advance. In Life insurance fortunately the rate of mortality among insured lives, particularly at the young ages, has shown a marked reduction in the last twenty years, but it is not at all clear that there has been a corresponding reduction in the rate of disability. In fact, the experience of British friendly societies indicates that as the rate of mortality decreases, the rate of disability increases. This is illustrated by the following figures given by Mr. A. W. Watson in "An Account of the Investigation of the Sickness and Mortality Experience of the I. O. O. F. Manchester Unity during the Five Years 1893–1897."

COMPARISON OF MORTALITY AND DISABILITY RATES IN MANCHESTER UNITY EXPERIENCE IN PERIOD 1866–70 WITH MANCHESTER UNITY EXPERIENCE IN PERIOD 1893–97.

Ages.	Rate of Mortality per 1,000 Members per Annum.		Rate of Disability in Weeks per Member per Annum.	
	M. U. 1866–70.	M. U. 1893–97.	M. U. 1866–70.	M. U. 1893–97.
16–19 ..	4.6	2.5	.54	.92
20–24 ..	6.4	3.7	.75	.90
25–29 ..	7.6	4.6	.81	.95
30–34 ..	8.2	5.5	.93	1.06
35–39 ..	9.8	7.0	1.06	1.27
40–44 ..	12.6	9.5	1.26	1.58
45–49 ..	14.3	11.7	1.64	1.99
50–54 ..	19.1	16.9	2.22	2.75
55–59 ..	24.9	24.2	3.05	4.02
60–64 ..	35.4	35.6	4.72	6.31
65–69 ..	52.1	54.1	7.24	10.59
70–74 ..	78.1	80.9	12.06	17.40
75–79 ..	99.5	120.4	16.87	25.15
80–84 ..	118.8	176.6	20.59	32.27
85–89 ..	196.1	232.6	29.63	36.12
90–94 ..		284.7		38.89
95–100 .		440.0		38.57

The later experience shows a marked reduction in the rate of mortality at ages under 60 accompanied by an increase in the rate of disability at all ages. Commenting on this experience in conjunction with other tables, going back to the period 1846–48, Mr. Watson says: "Sickness rates are constantly rising whilst mortality rates except at the older ages are declining. This experience is unfavorable financially in two directions—not only is the sickness per member at each period of life heavier than was formerly the case but a greater proportion of members than formerly now survive into old age, the period of life at which sickness is at its maximum intensity."

In issuing Non-Cancellable policies in the United States, we may reasonably count on an improvement in mortality which will in itself increase the amount payable for disability claims because a larger proportion of insured lives will survive to the older ages where the rate of disability is heaviest. It is not known whether the actual rate of disability at each age has been increasing from generation to generation in this country as has been the case among

British fraternals. The tendency towards shorter working hours, the greater use of preventives and the improvement in sanitary conditions accompanied by increased knowledge of medicine and surgery may reverse the tendency which has been so marked in Great Britain in the experience of the fraternal orders.

On the other hand, it should be noted that in recent years several new factors have been introduced into the problems of Accident and Health underwriting. For instance:

1. Increase in the hazard of injuries due to war or any act of war as illustrated by the world-wide war and particularly the losses to non-combatants—for instance, in air raids and in the sinking of the Lusitania.
2. The motor hazard which in itself is changing from time to time. For instance, the self-starter has practically eliminated accidents caused by cranking but the increase in power and speeds appears to have caused further hazard from reckless driving.
3. The influenza epidemic in the winter of 1918–19 and its recurrence in the early part of 1920. Fortunately most of the illnesses were of comparatively short duration but they had a most important bearing on the companies' experience in the last few years.
4. The aeroplane hazard.
5. The introduction of the radium and X-ray hazard in medical and dental work.
6. The Prohibition Amendment with its modifications of the drink and moral hazards.
7. A period of abnormal prosperity and inflated earnings followed most abruptly by a period of abnormal depression and greatly reduced earnings. A person whose income in 1919 might justify the issuance of a total Disability policy for $1,000 a month might find his income in 1921 reduced to such a figure that a Disability policy providing more than $200 a month would look like over-insurance.

In the light of these changes in recent years, who is bold enough to predict the rate of disability in the general population and particularly in certain classes 10, 20 or even 30 years hence?

XII. Selection of Risks.

Having discussed some of the general problems involved in underwriting Non-Cancellable insurance, let us now take up the factors which must be considered in determining whether a specific risk should be accepted, having in mind that the underwriter must take into account:

1. What is the chance of the applicant becoming disabled?
2. Will the duration of disability probably be short or long?
3. Will there probably be a recurrence of disability?
4. How reasonable will the applicant be when a claim arises?
5. What is the chance of fraudulent claim and malingering?

With every application the company should secure a full medical examination and a reliable inspection report. The medical examination form should be entirely separate from the application form in order that the company may have two distinct viewpoints on the insurability of the risk.

Source.—It is well known that the character and loyalty of the salesman have an important bearing on the class of business secured in Life insurance and Accident insurance. This selection on the part of the salesman will probably be even more pronounced in the case of Non-Cancellable Disability insurance. If the salesman associates with the best class of people and eliminates from his canvass those persons who he believes are not the best risks, then his business will show a low rate of disability and the company will gradually acquire increased confidence in the character of his business. Some companies refuse to accept business from agents or brokers with whom they have only a remote connection and most companies agree that the best business is that secured through salesmen who are devoting practically their entire time to the interest of that particular company. The character and ability of the General Agent and salesman will have a most important bearing on the quality of the business secured. Furthermore, the companies should closely watch the experience on Accident and Health business secured from each General Agent and from each salesman in order to determine which men are securing good business. Salesmen with a consistently bad experience should be eliminated and those with a favorable experience stimulated to greater production.

Age.—The Underwriting Committee recommends that no policy should be issued under age 20 or over age 56. At young ages the