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UNDERWRITING OF INDIVIDUALLY-ISSUED ACCIDENT AND HEALTH PRODUCTS

Moderator: CURT L. FUHRMANN. Panelists: RICHARD H. DRAKE, PATRICK J. O'REILLY, ROBERT SHAPLAND. Recorder: RANDALL J. PICKERING

1. Nature of the risk and contract type.
2. Financial considerations.
3. Other coverage considerations.
4. Medical underwriting standards.
5. Substandard approaches.
6. Risk classes (sex, occupation, smoking, etc.).
7. Guaranteed issue - controls provided by the contract and by exclusion of preexisting conditions.
8. Selection patterns.

MR. CURT L. FUHRMANN: Our objective today is to provide an overview of the various underwriting methods and techniques used with individually issued accident and health insurance. We will broaden the definition of underwriting to include not only the techniques ordinarily thought of as underwriting but also any other methods used to control the type of risk selected. Our panelists are Bob Shapland, Vice President and Actuary at Mutual of Omaha Insurance Company; Mr. Dick Drake, Vice President and Associate Actuary at Prudential Insurance Company; and Pat O'Reilly, Vice President and Chief Actuary of Montgomery Ward Life Insurance Company. Bob will speak first and discuss underwriting of individually issued disability income insurance. Dick will follow Bob and talk about underwriting of individual medical expense insurance. Finally, Pat will discuss guaranteed issue types of contracts.

MR. ROBERT B. SHAPLAND: Because of time constraints, I have chosen to limit my remarks to an analysis of the nature of the disability risk and how insurers can cope with this risk. My remarks may be more relevant to the blue collar market than to the white collar market since my company is stronger in the blue collar market. In addition, my company does not issue noncancellable coverage so my remarks may not be completely relevant to noncancellable forms.

In understanding the nature of the risk, it is important to recognize that the inability to work because of an accident or sickness is subjective in nature. It involves an attitude as well as a physical or mental impairment. This is made clear when we see people with extremely severe handicaps working and others with minor problems claiming disability. Some of the data I will be presenting further support this attribute of the risk.

Since disability is partially a state of mind, experience is subject to many factors. These include the level of unemployment, the attitudes of insurers (including the federal government) in accepting contentions of disability, people's work ethics, people's attitudes toward retirement, and the attitudes of physicians who certify disability.

Given that the risk is subjective, it is important for insurers to adopt underwriting standards and policy provisions which help to minimize abuse and experience fluctuations as well as cope with poor underwriting results when they arise. And the most powerful tool in this regard seems to be the maintenance of a financial incentive to work, that is, deductible and coinsurance requirements.

The following chart demonstrates the effectiveness of this tool. It shows Society of Actuary statistics on Group long-term disability contracts for the years' 1970-1974 and 1975-1979. As you can see, the relative frequency of claims to those for all groups increases rather dramatically as the ratio of benefit provided to gross income increases.

Effect of Coinsurance
On Group Long-Term Disability Experience

At Least 75% Employees Salaried, Majority Non-Executive

Ratio of Benefit to Gross Income	Claim Frequency Relative to All Groups	
	1970-74	1975-79
Under 50%	.52	.62
50%	.93	.87
50% - 60%	1.01	1.11
60% - 70%	1.17	1.23
Over 70%	1.18	1.19

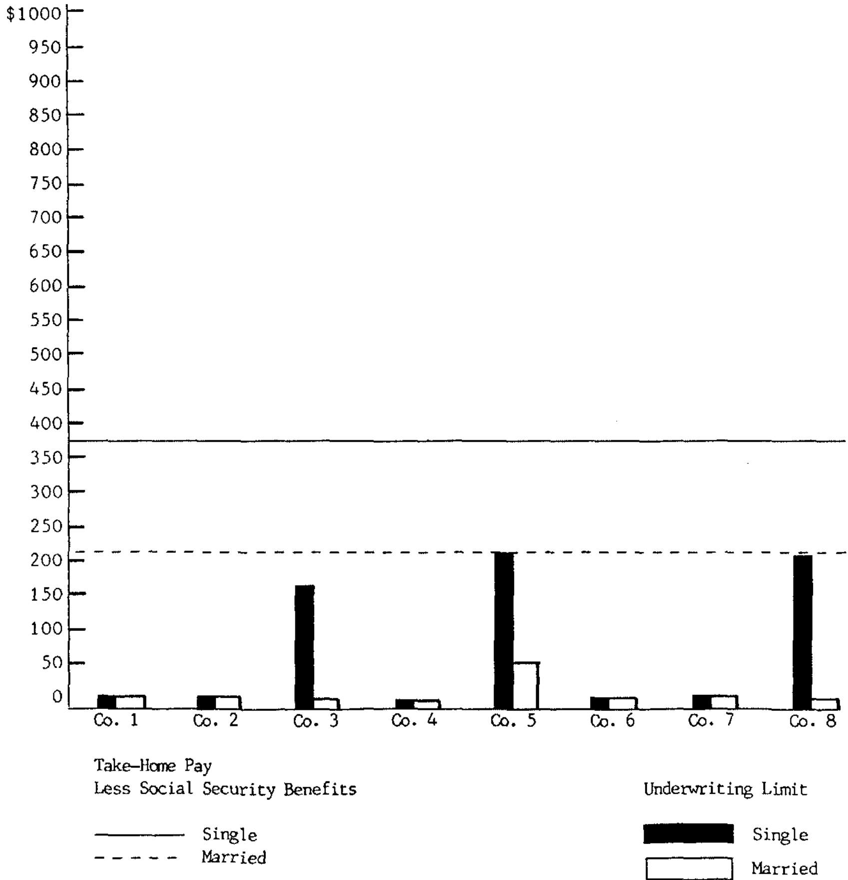
The graphs on the following eight pages show how insurers are utilizing this underwriting tool. The graphs show, at various levels of monthly gross earnings, a comparison of the underwriting limits for eight large companies to insurable income (take-home pay). All figures shown are for insureds age 40. There are two graphs for each of four levels of monthly gross earnings - $1,000, $3,000, $5,000 and $10,000. The first graph at each earnings level shows the amounts of benefits the companies will issue prior to adding any Social Insurance Supplement (SIS) coverage. These are compared to estimated take-home pay reduced by estimated social security benefits. The second graph at each income level shows the amounts the companies will issue including SIS coverage relative to take-home pay without reduction for social security benefits. Since both take-home pay and social security benefits are estimates, the graphs would, of course, look different if other estimates were used.

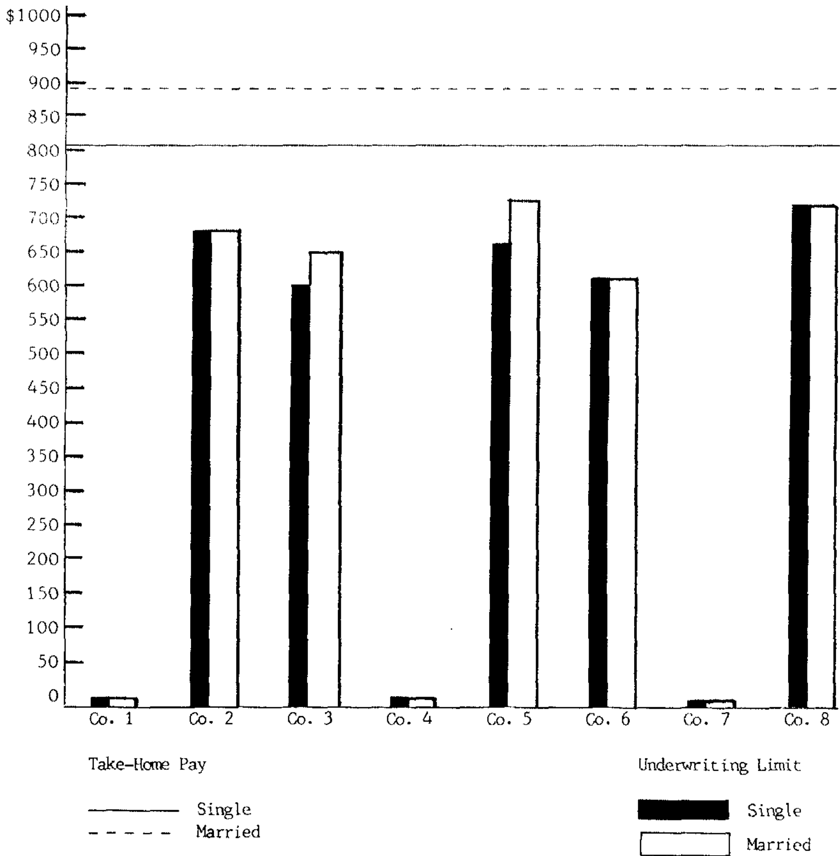
At the $1,000 monthly gross earnings level, all of the companies have adopted underwriting limits below insurable income. Three of the companies are unwilling to write any benefit - their underwriting limit at this earnings level is zero. Of the five companies who will write some benefit, only two vary the amount between single and married persons despite the fact that insurable income for a single person is smaller due to higher income taxes.

At the $3,000 monthly gross earnings level, the coinsurance levels are much lower, particularly for single people. In some cases, the companies write up to 100% of insurable income. In fact, before adding SIS coverage, some companies are issuing benefits which, when combined with social security benefits, exceed 100% of take-home pay.

COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES

$1,000 MONTHLY GROSS EARNINGS
NOT INCLUDING SOCIAL INSURANCE SUPPLEMENT




COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES
$1,000 MONTHLY GROSS EARNINGS
INCLUDING SOCIAL INSURANCE SUPPLEMENT
$1000
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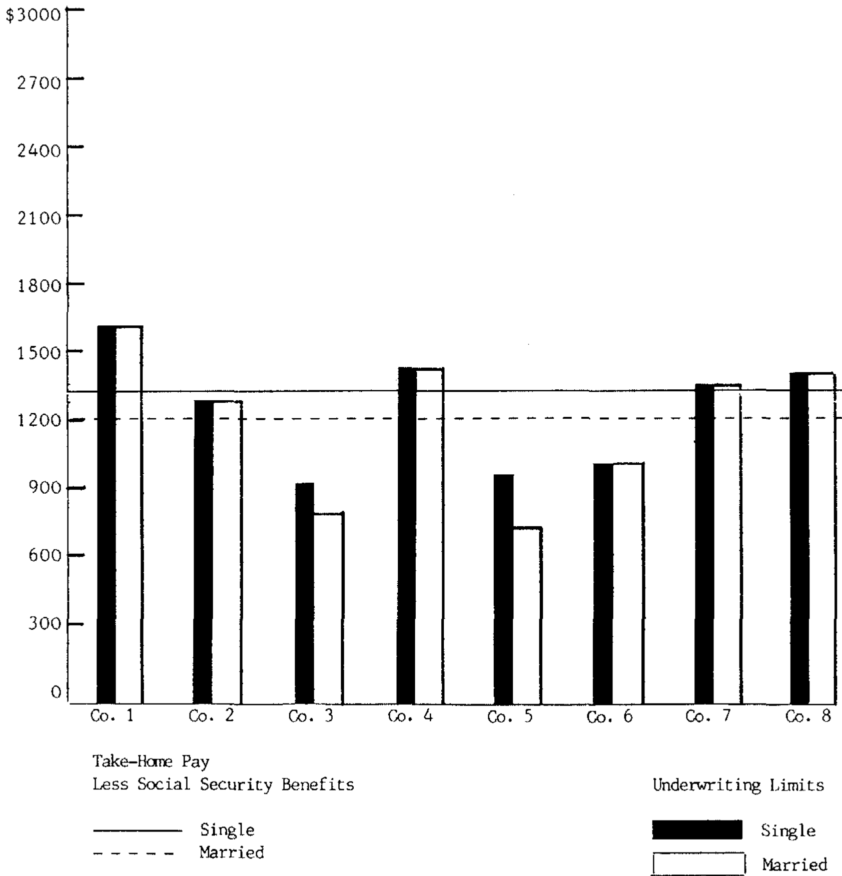
Co. 1
Co. 2
Co. 3
Co. 4
Co. 5
Co. 6
Co. 7
Co. 8
Take-Home Pay
Single
Married
Underwriting Limit
Single
Married


COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES
$3,000 MONTHLY GROSS EARNINGS
NOT INCLUDING SOCIAL INSURANCE SUPPLEMENT
$3000
2700
2400
2100
1800
1500
1200
900
600
300
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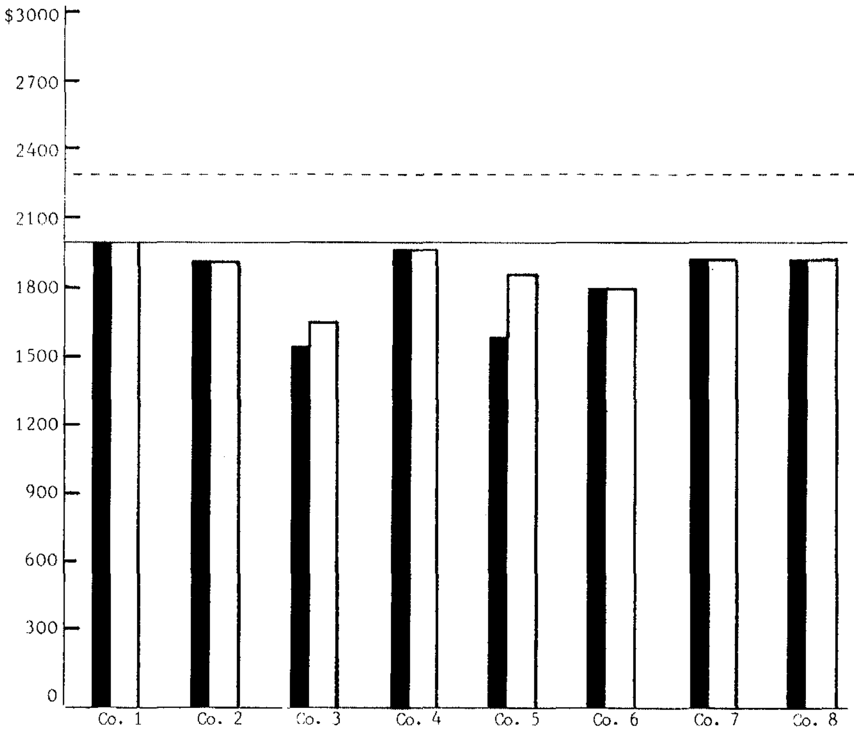
Co. 1
Co. 2
Co. 3
Co. 4
Co. 5
Co. 6
Co. 7
Co. 8
Take-Home Pay
Less Social Security Benefits
Single
Married
Underwriting Limits
Single
Married


COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES
$3,000 MONTHLY GROSS EARNINGS
INCLUDING SOCIAL INSURANCE SUPPLEMENT
$3000
2700
2400
2100
1800
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1200
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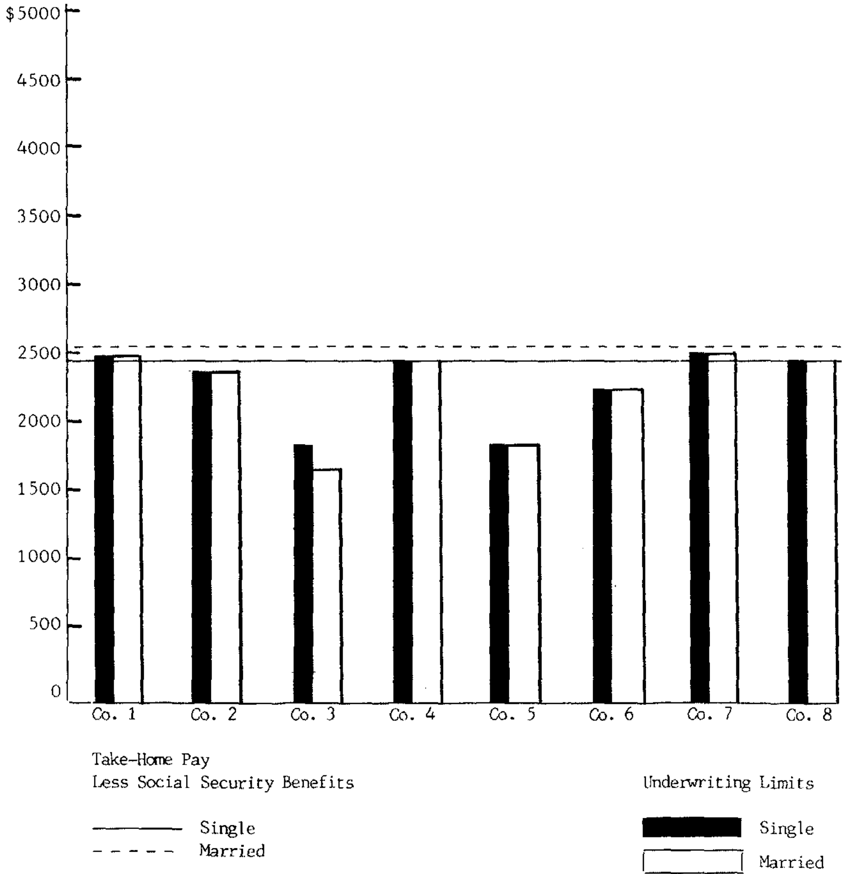
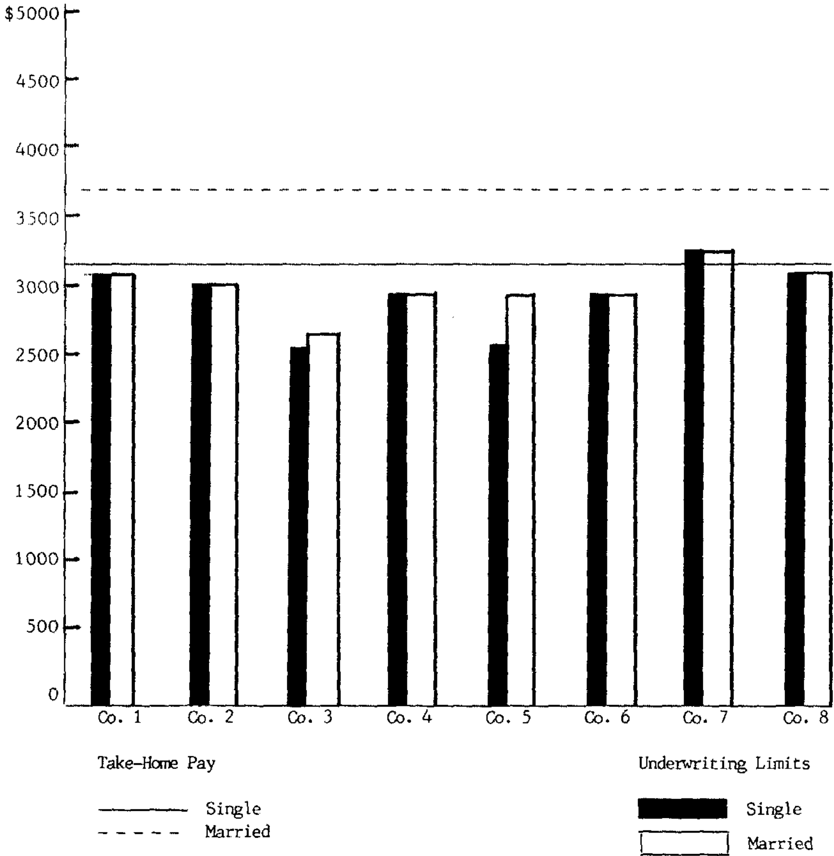
Take-Home Pay
Single
Married
Underwriting Limits
Single
Married


COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES
$5,000 MONTHLY GROSS EARNINGS
NOT INCLUDING SOCIAL INSURANCE SUPPLEMENT
$5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Co. 1
Co. 2
Co. 3
Co. 4
Co. 5
Co. 6
Co. 7
Co. 8
Take-Home Pay
Less Social Security Benefits
Single
Married
Underwriting Limits
Single
Married

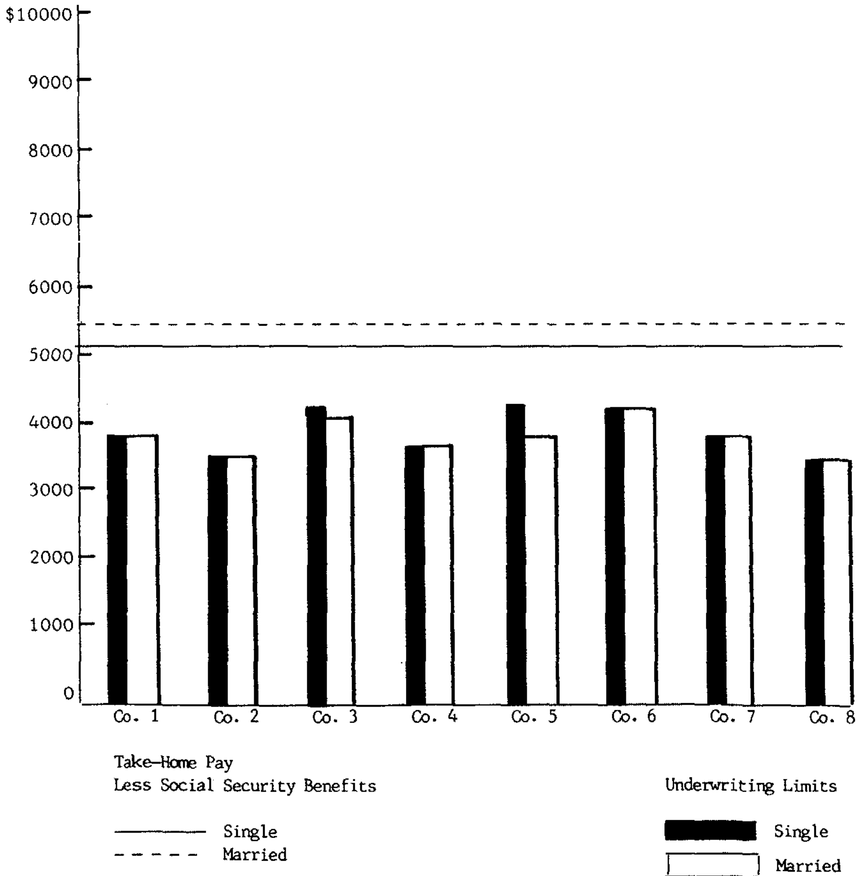
COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES

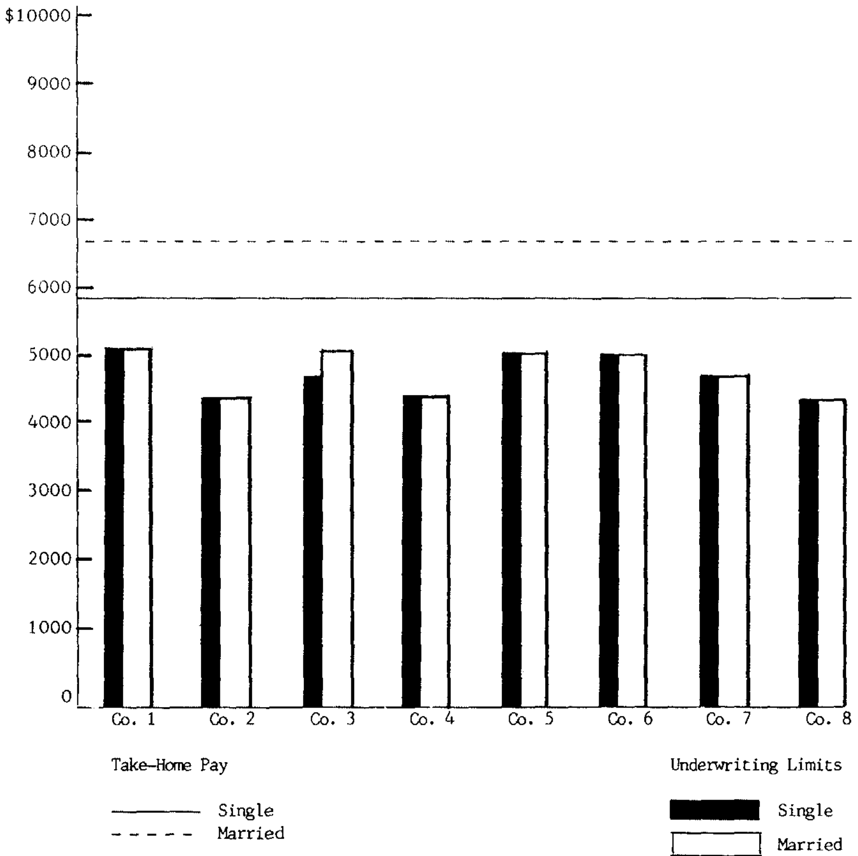
$5,000 MONTHLY GROSS EARNINGS
INCLUDING SOCIAL INSURANCE SUPPLEMENT



COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES

$10,000 MONTHLY GROSS EARNINGS
NOT INCLUDING SOCIAL INSURANCE SUPPLEMENT




COMPARISON OF INSURABLE INCOME WITH UNDERWRITING LIMITS
8 LARGE COMPANIES
$10,000 MONTHLY GROSS EARNINGS
INCLUDING SOCIAL INSURANCE SUPPLEMENT
$10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Co. 1
Co. 2
Co. 3
Co. 4
Co. 5
Co. 6
Co. 7
Co. 8
Take-Home Pay
Single
Married
Underwriting Limits
Single
Married

At the $5,000 monthly gross earnings level, the companies again have some coinsurance for married persons but very little or none for single persons.

Finally, at the $10,000 monthly gross earnings level, all the companies have some coinsurance for both married and single persons.

The figures in these graphs ignore the impact of taxable investment and spousal income on insurable income. Where these items are present, our progressive income taxes reduce insurable income since the tax rate applied against these items reduces if the insured loses his taxable wages. The following chart shows the impact of these items on insurable income:

Estimated Tax Saving on Investment and Spousal Income if Disabled

Monthly Salary	10% Inv./Spousal Income		100% Inv./Spousal Income	
	Single	Married	Single	Married
$ 1,000	19%	10%	14%	12%
2,000	32	21	19	17
3,000	38	27	21	21
4,000	39	35	20	22
5,000	41	39	18	21
6,000	40	41	15	19
7,000	40	41	14	18
8,000	40	41	12	17
9,000	39	42	11	16
10,000	39	43	09	15

My study indicated that only one insurer out of the eight recognizes investment income in its underwriting standards and none recognize spousal income.

It might also be noted that the insurable income figures do not recognize the impact of age on Social Security benefits. While such benefits are currently based on an index system, there are still some residual differences in benefit levels by age when one assumes that past wages have varied in accordance with the national average. The following chart shows the differences in benefit levels by age:

Impact of Age on
Social Security Disability Benefits

Monthly Salary	Estimated Monthly Social Security Benefit Age 24	Age 40	Age 52
		SINGLE	
$ 1,000	$ 452	$ 446	$ 446
2,000	708	693	675
3,000	846	742	705
4,000	855	743	705
5,000	855	743	705
6,000	855	743	705
7,000	855	743	705
8,000	855	743	705
9,000	855	743	705
10,000	855	743	705
		MARRIED	
$ 1,000	$ 678	$ 669	$ 669
2,000	1,062	1,040	1,013
3,000	1,269	1,113	1,058
4,000	1,283	1,115	1,058
5,000	1,283	1,115	1,058
6,000	1,283	1,115	1,058
7,000	1,283	1,115	1,058
8,000	1,283	1,115	1,058
9,000	1,283	1,115	1,058
10,000	1,283	1,115	1,058

These figures suggest that benefit limits should be varied by age but I am not aware of any company which does this.

The accident risk is another area of risk which stems from the subjective nature of disability. The chart below shows the percentages of claims arising from accidents under various types of coverages at Mutual of Omaha and in statistics published by the Society of Actuaries. It is interesting to note the wide disparity between the different types of coverages.

Accident Component of Health Insurance Costs
(Number of Claims)

Mutual of Omaha	
Group Hospital - Medical (non-occ)	6 - 7%
Group Short Term Disability (non-occ)	25 - 30%
Society of Actuaries	
Group LTD (Integrated with Worker's Compensation)	9 - 10%
Individual Disability (Duplicates Worker's Compensation)	
Male, White Collar	31%
Female, White Collar	23%
Male, Blue Collar	47%
Female, Blue Collar	26%

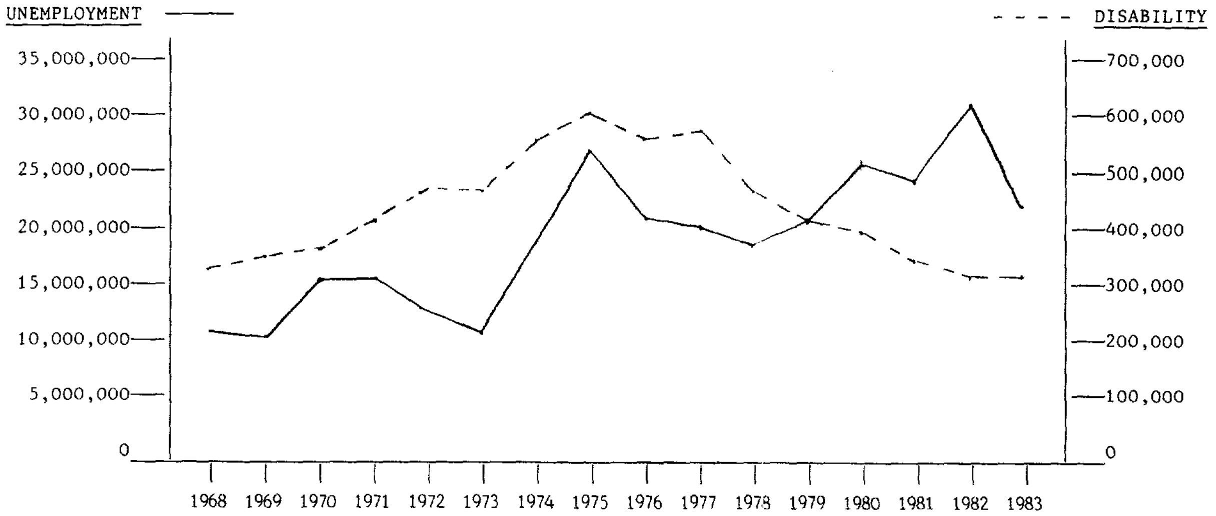
At Mutual of Omaha, we have historically had poor first policy year experience. This poor first year experience developed again under a new disability form first issued in 1982. We had earned premium of about $1,400,000 in 1982 under this form with an incurred loss ratio developing close to 85%. To determine the causes of this poor experience we examined the claims under which disability was continuing at the end of 1983. All of these claims, therefore, were between one and two years old. There were 13 such claims of which ten were for accidents. A surprising eight of the ten accident claims (and one of the sickness claims) were for back trouble. We discovered that six of the accident claims for back trouble stemmed from work related accidents. Each of these six claimants was receiving worker's compensation benefits. The combination of our benefits and worker's compensation benefits caused all six of these claimants to be better off financially than when they were working.

Our analysis suggested that we question the appropriateness of the provisions we include in our Social Insurance Supplement (SIS) rider. Payments under this rider are discontinued only if social security benefits are received (or if social security benefits are not received only because of the integration between social security and worker's compensation). In each of the six cases mentioned above, social security benefits were denied so we were paying benefits under our SIS rider in duplication of worker's compensation benefits.

We examined the social insurance provisions of 33 other companies and found that 24 of them recognize both social security and worker's compensation benefits. Of the nine companies which do not integrate with worker's compensation, eight deny benefits if any social security benefits are payable and one reduces benefits by the amount of social security benefits. The social insurance supplement benefits for the eight companies denying benefits if any social security benefits are received are not adversely affected by worker's compensation benefits unless the worker's compensation benefits completely eliminate social security benefits. For the company which reduces benefits dollar for dollar, however, a reduction in social security benefits due to receipt of worker's compensation benefits increases the benefits provided by the company and duplicates the benefits received under worker's compensation.

The importance of recognizing worker's compensation benefits when underwriting disability insurance is especially clear when one realizes that these benefits can be as high as $2,000 a month or more depending on the state and level of earnings. It seems therefore, that some method of coordinating benefits with worker's compensation benefits should be used.

The subjective nature of disability is also indicated by the relationship between unemployment insurance and social security disability claims. The graph on the following page shows this relationship for the years 1968-1983.


New Unemployment Claims vs. New Social Security Disability Cases
UNEMPLOYMENT
DISABILITY
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983

It appears that between 1968 and 1978, social security disability experience tracked unemployment insurance experience fairly closely. Since 1978, there does not appear to be any relationship. The relationship may have changed because of changes in the Social Security law or in the claim administration practices of the Social Security Administration. The chart below shows how the claim paying practices of the Social Security Administration have changed in recent years.

Social Security Disability Claim Administration

Period	% of Initial Applications Denied	% That Appeal	% of Appeals That Are Denied	% of Initial Applications Still Rejected After 1st Appeal	% Claimants Denied On Review*
1/77 - 12/77	68%	30%	79%	64%	
10/77 - 9/78	58	44	81	53	
10/78 - 9/79	63	44	83	58	
10/79 - 9/80	67	44	85	63	
10/80 - 9/81		----- Not Available -----			
10/81 - 9/82	72	46**	89	68	45%
10/82 - 9/83	68	46**	86	64	41
10/83 - 6/84	65	43**	84	60	24

* Review every 3 years (7 years if considered permanently disabled).
** Based on composite of applicant and claimant reviews.

This chart indicates that claim administration has been liberalized in recent years. Of special interest is the dramatic decrease in the percentage of claimants whose benefits were discontinued upon review. This change is likely to have an adverse effect on the regular disability experience of private insurers because the continued receipt of social security benefits reduces the financial incentive to return to work. Experience under social insurance riders, however, should improve since benefits are not paid when social security disability benefits are received.

The subjective nature of disability is also indicated by recent findings of the Society of Actuaries Committee to Recommend New Valuation Tables for Disability Income. They discovered considerable anti-selection by elimination period. This is indicated in the following chart. This chart shows the ratios of the probabilities of remaining disabled after 90 days for 30 and 90 days elimination periods to the probabilities for a 7 day elimination period. As can clearly be seen, use of longer elimination

periods can have a tremendous effect on claims experience. It might be noted that the eight insurers whose benefit limits I studied all require a minimum elimination period of 30 days, at least for larger size policies.

Impact of Elimination Period on Disability Experience

Elimination Period	Occ Class	Ratio of Probability of 90-Day Disability To That Indicated by 7-Day Elim. Experience			
		Age 27	Age 37	Age 47	Age 57
30 Days	1	.38	.40	.51	.59
	2	.52	.56	.65	.68
	3	.84	.84	.84	.79
	4	.85	.80	.78	.80
90 Days	1	.17	.15	.25	.41
	2	.27	.26	.40	.56
	3	.42	.37	.52	.78
	4	.49	.42	.54	.78

To cope with the disability risk, insurers also use risk classification. The risk classification factors used for disability income include:

- age
- occupation
- sex
- smoking
- geographic location
- health

The variations in claim costs by occupational class do not stem soley from differences in occupational hazards. The following chart gives some evidence of this. It shows, for various elimination periods and ages, the ratios of the claim costs for Blue Collar Males and White Collar Females to those for White Collar Males.

Relative Disability Claim Costs
1 Year Benefit
1978-79 Intercompany Disability Study

Attained Age	Elimination Period	Ratio to White Collar Male Costs: Blue Collar Males — Accident	Blue Collar Males — Sickness	White Collar Females — Accident	White Collar Females — Sickness
Under 30	0 Days	193%	---	53%	---
30 - 39		235	---	77	---
40 - 49		203	---	78	---
50 - 59		202	---	105	---
60 - 69		202	---	123	---
Under 30	7 Days	153	92	65	146
30 - 39		157	113	58	225
40 - 49		158	113	84	166
50 - 59		192	120	107	99
60 - 69		139	136	56	108
Under 30	14 Days	196	115	71	191
30 - 39		275	136	78	269
40 - 49		259	147	127	206
50 - 59		251	163	165	119
60 - 69		278	140	244	82
Under 30	30 Days	469	172	144	167
30 - 39		488	243	182	219
40 - 49		494	209	141	220
50 - 59		374	192	211	144
60 - 69		300	208	135	114

With respect to sex, there has been a trend recently toward unisex rating. The chart below shows the results of a study I made in September, 1984 of 25 companies.

September 1984 Study of Unisex Rating
(25 Companies)

Full Sex Rating	8 Companies
Unisex on Top Occupational Class(es)	12 Companies
Unisex on High Salaries Only	1 Company
Full Unisex Rating	4 Companies

With respect to smoking, a recent survey of 21 companies showed that four have adopted premium differentials for smokers vs. non-smokers. This differential is usually 10%.

Finally, there are some other methods of coping with the disability risk that might be mentioned:

Other Methods of Coping
With the Disability Risk

1. Return of Premiums with Claim Offset
   (Mutual of Omaha Claims Reduced 40%)

2. Other Credits for Favorable Claim Experience
   a. Refund of Part of Premium
   b. Lower Renewal Premiums
   c. Benefit Bonus

3. Benefit Period/Amount Limits
   a. Hazardous Occupations
   b. Substandard Risks

4. Right to Increase Premiums

5. Agent/Agency Management

6. Normal Pregnancy Exclusion

With respect to return of premium, our claim experience at Mutual of Omaha is 40% less under our return of premium policy than for regular disability coverage. A portion of this is probably a result of the better risks preferring the return of premium policy. Still, the return of premium feature provides a financial incentive not to file claims unnecessarily since the amount of premium returned is offset by any claims received.

It is my personal feeling that the fourth item on the list above, retention of the right to increase premiums, is one of the most important. At Mutual of Omaha, we do not sell any non-cancellable disability insurance. We think that the disability risk is too unstable and subject to too many outside influences.

In summary, the underwriting of the disability risk poses hazards for the insurance industry. Unsatisfactory experience stemming from changes in policyowner attitudes, unemployment, claim administration by the federal government, etc., has occurred in the past and can occur in the future. The importance of the recognition of all factors impacting unfavorably on experience and the adoption of protective devices to cope with these is therefore self-evident.

MR. FUHRMANN: Bob, at Time Insurance, we also write only guaranteed renewable coverage and we are very much in agreement with your comments on noncancellable coverage.

Mr. Dick Drake is now going to discuss the Individual Medical Expense line.

MR. RICHARD H. DRAKE: Underwriting medical expense insurance is basically a matter of underwriting a long term risk. Once you accept the risk it is likely to continue until terminated by the action of the insured.

Yes, there are short-term policies providing temporary medical coverage lasting no more than 6 months, but they are generally not "underwritten" in the sense of the word that I will be using in this discussion. And yes, some companies build into the contract a broad right to terminate the coverage, but public policy and state regulation inhibit the exercise of that contractual right. So for practical purposes, once you agree to insure an individual's medical expenses, you can expect to be on the risk until the insured himself decides to sever the relationship.

What does this suggest about exposure to claims -- about the risk that the insured will incur large medical bills after you agree to cover them?

> First, if the insured has an ongoing condition which is currently generating expenses, you had better find out about it and protect yourself against the charges that will result.
>
> Second, if the insured had a condition which is not currently giving rise to medical expenses, but which could do so once again in the future, same thing...seek, discover, and protect yourself.
>
> Third, be prepared for the covered individuals to become less healthy as time goes on. You would expect this of the individual who starts out with an impairment, but it can turn out to be just as much of a risk with the apparently healthy life -- the one without a present or incipient health problem.

I think it may be useful to use these three hooks to hang our underwriting coats on. By the time we go through all of the pockets of these underwriting jackets, we should have a pretty good idea of the reasons behind a lot of underwriting nit-picking.

So, let's start with finding out what's wrong with the applicant's health right now, today, as he signs the application. The most significant fact that leaps to mind is that the application is completed in the presence of the agent, and his opportunity to observe the applicant's apparent state of physical and mental health is our first, and in some ways most important, underwriting tool. With some agents this is a thin reed to lean on, but if you can develop a field force which is conditioned to act in the Company's interest you can learn a lot about the health of the prospective insured right at the start. It doesn't take a particularly trained eye to observe the sickly pallor, the shaky hand, and the halting step. We would hope that an obvious discrepancy in recorded weight would also be noted and reported, unlike one of our agents who, when asked why he didn't question more closely the 300 pound woman who said she weighed 147 pounds, reported "I thought the underwriter would catch that!" Of course, if the agent knows the applicant and his family well, he may be aware of a recent change in health, or an impending operation. In any event, he has a real

advantage over the home office underwriter in that he is on-the-spot, and the value of his first-hand observation cannot be over-emphasized. Unfortunately, his cooperation may be difficult to obtain and his loyalty even harder to earn, particularly if he is a broker.

As to objective evidence of the applicant's current health, the application should solicit information concerning medication or treatment being given for any condition or disease. The requested "full details" for any positive response provide a starting point for the underwriter's evaluation. Beyond that, little is usually done to physically examine the applicant -- that is, medical examinations are not very common.

Now let's reach up to that second hook and examine the coat that holds the secrets to the applicant's past medical history and what it may tell us about his future. Here again we depend a great deal upon the agent, not so much for his knowledge of the applicant's past medical condition as for his care and diligence in drawing information from the applicant. Even if the applicant is not devious, he may well be forgetful or ignorant of the significance of seemingly trivial medical incidents. An alert agent will notice any hesitancy in the answers and can draw more complete responses from the applicant. The questions themselves are rather broad and designed to elicit information about any treatment, observation, consultation or testing done during the last five years or so. The questions often search back even further with regard to drug abuse or to recommended surgery (whether or not actually performed).

Not all of the medical history obtained will be of significance, but if you don't ask for it you won't get it, and if you don't get it you can't evaluate it. Among the items which you may learn which will have little bearing on the expectation of future medical expenses are broken bones, pneumonia and appendectomies -- provided, of course, that they followed an uneventful course and left no permanent impairment.

Another class of conditions which will emerge from the answers found on the application includes chronic ailments which, while they may not currently be causing distress, are likely to recur or erupt in the future, becoming progressively worse and requiring medical treatment with increasing frequency. The more significant of these conditions are coronary artery disease and other circulatory disorders, neoplasms, and impairments of the back or spine. The significance of these will vary from individual to individual but in every case it is essential to obtain as much information as is economically feasible.

Yet another type of medical history which may emerge is of a condition which, of itself, may result in little medical expense, but which may predispose the individual to injury or complicate the course of other illnesses, impeding recovery and compounding costs. Diabetes and epilepsy are extreme examples of such conditions, but overweight is a more prevalent one.

Now, how about that third risk we agreed to undertake -- the risk that the insured, however healthy he might seem at issue, will get sicker after we agree to insure him? In fact, this is more at the heart of the whole business of insurance than the other two, isn't it? You don't insure a

burning house against fire, and you don't take a batch of health insurance applications into the hospital ward -- at least, that's what we keep trying to tell our agents! So most of the time you will be insuring a basically healthy person who needs to share the risk of unexpected illness. A few claims from people who start out healthy is just insurance at work. But CAST -- the Cumulative Anti-Selection Theory described by Mr. Bill Bluhm -- has made us all conscious of the accelerative spiral which commences when claims start to roll in. So let's look at the ways we prepare for the onslaught.

First, we should consider that our price will already reflect a degree of variation in claim costs among what we consider to be normal lives. The variation by age and sex are basic and are built into the Standard premium scale; to a lesser degree, and in a very broad way, this is also true of occupation. These factors represent characteristics pretty much beyond the individual's control which reflect a predisposition towards higher or lower claim costs.

Beyond this, what can be done to protect against the deterioration of the risk with time, as CAST predicts and experience confirms? In order to fit the answer into this panel topic I will call it "advance renewal underwriting". It is actually a combination of plan design and contractual rights.

The plan design should provide sufficient cost-sharing by the insured and obsolescence of benefits in the face of inflation to help offset the deterioration of the insured's physical condition. In other words, as the insured finds the need for insurance increasing, the insurance becomes relatively less valuable to him. He can try to upgrade the insurance, of course, but then you'll get another chance to underwrite his physical condition. The renewal and rate provisions should also permit periodic increases in premiums if the block of business itself deteriorates. In addition, there should be provision for termination of the block of business if premium rate increases are unable to keep pace with claim costs, although I have already suggested that this will be a hard one to apply.

Now we have looked at our exposure to future medical expense reimbursement from three sources -- past ailments which aren't currently active, ailments which are currently active, and future ailments of which we have no current warning. Note that the word "current" appears in each phrase -- but only because we have been talking mainly about sources of information (the agent's impressions, and the application) which reflect a current observation of the applicant's condition. Even the reported past medical conditions are thus a current report, and a necessarily biased one, of a previous occurrence. Yet each of these revealed histories must be dealt with from a common perspective: what is their potential effect upon the frequency and severity of possible <u>future</u> claims. A proper evaluation of their potential impact requires securing medical records from doctors and hospitals to translate the sterile answers on the application into living physiological pictures of the applicant.

The Attending Physician's Statement (APS) is perhaps the most reliable source of information concerning a specific medical condition or incident. The physician is usually one familiar with the applicant and his general medical history. An APS can do wonders in clearing up confusion about the true nature of that "routine checkup" reported on the application, or the history of elevated blood pressure three years ago. It is also of particular value in substantiating information obtained through a Medical Information Bureau look-up. It is unfortunate that because it has become so difficult to obtain APS's, long underwriting delays are common and rejections are often required when a vital APS cannot be obtained in a timely manner. It is also unfortunate that many agents do not understand that a truly complete answer on the application may work to the applicant's advantage by eliminating the need for an APS.

Another source of useful information is the Inspection Report. It helps to confirm elements of the applicant's medical history, but it may also reveal habits which can have an impact on the individual's health -- the extent of alcohol use, for instance, may be best revealed in this way. The Inspection Report is particularly useful in documenting hobbies or sports involvement which could represent a material risk of injury -- hang gliding and skydiving represent obvious risks, but even the increasing popularity of skiing and scuba diving merit a close look at the degree of activity indulged in by the applicant.

Well, now that we've marshalled all the facts, and know all we are likely to need to know about the applicant's medical history and current physical condition and future prospects, as well as his character and lifestyle, -- what do we do with all this? The answer is that our first concern should be the price -- are we going to take in enough premium for the risk we are willing to assume? If our medical screening has produced evidence of an existing risk beyond the normal we must evaluate its effect on claim expectations and decide whether we can accept the full risk at a reasonable increase in price. This is the most desirable solution for the substandard risk since it preserves full coverage, and it generally works well for impairments like hypertension and ulcers. This approach also works for covering the extra risk involved in hazardous avocations. If the extra premium approaches 100% of the Standard premium, however, we must seriously question the degree of anti-selection which may be involved if the applicant is willing to pay that stiff a price. If he considers it a bargain at that high a premium, our evaluation of the risk involved may be faulty. For this reason, many insurers will not accept a risk if the required extra premium would exceed 100%.

An alternative, of course, is where the problem condition can be exlcuded from coverage by a waiver and the balance of the risk accepted at a reasonable price -- often standard, sometimes with an extra premium. Conditions which can best be handled by excluding them, at least temporarily, include hernias, appendicitis and a history of kidney stones. Still others, like chronic attacks of stomach ulcers or back injuries, require a waiver but also require a higher premium to cover the extra risk of complications during episodes involving other conditions.

As I have said, all of this -- including the waiver of certain conditions -- is designed to match the premium to the coverage, either by raising the premium, lowering the coverage, or both. When all else fails, the only sensible course may be postponement, elimination of one of the lives to be covered, or outright rejection of the application.

I think I have now drawn all the threads together, however sketchily, except for three items which I have purposely neglected. I'll hit them briefly now as a wrap-up to my remarks. They are not of equal importance, but they are items which have caused us at Prudential considerable concern in our attempts to develop a sound individual medical expense product.

The first is the matter of overinsurance. Overinsurance tends to encourage over-utilization and profit-taking, driving up medical costs. Our previous product, CHIP, had comprehensive benefits covering semi-private accommodations and reasonable and customary medical charges with no inside limits and no integration with other insurance. That was a 100 million dollar lesson in plan design. The glorious failure cannot all be attributed to the effect of overinsurance, but we were determined to close that door at least when we developed Pru-MED, our current product. Pru-MED has two essential parts -- basic coverage, with limits on Room and Board costs and Surgical Fees, and a part called "additional services". These "additional services" do not include the spillover of excess Room and Board or Surgical charges and we think that is an important element of the plan design. They also have a variable deductible, related to the benefits of other insurance coverage for the same type of charges. Typically, this deductible is $1,000 plus benefits provided by other coverage. In some states, the deductible is the greater of $1,500 and the benefits of other coverage. In a few states, a variable deductible was not permitted at all and we had to use a larger flat deductible. We have no results to report yet on the effect of the variable deductible since Pru-MED is barely a year old.

The second item is the use of a preexisting condition exclusion. Actually, it is a definition of covered illness which includes only those first manifested after the effective date of coverage. Since we screen the applicant's medical history as well, this looks like wearing both a belt and suspenders. In practice, it doesn't work that way. In accordance with long-standing industry agreement, if we ask questions about the medical condition of lives to be insured, we must follow up on the resulting answers and take whatever steps we feel are necessary to protect us against adverse health conditions. In other words, we cannot deny a claim on the basis of pre-existence if the condition was freely and fully admitted by the applicant in his application. For this reason, and despite the "first manifested" definition of sickness, we must pursue to the fullest extent possible any additional information we feel might be necessary to properly evaluate the risk for conditions admitted in the application.

The last item, and the positive note on which I will close, is that we give a credit in the premium for non-smokers. They are defined as adults who have not smoked cigarettes for the past 12 months. This is the same definition we use in our life insurance policies, but I confess that the statistical link between smoking and morbidity is far less well established than is the relationship of smoking to mortality. The discount, however,

is a modest 5% -- and thus does actuarial science occasionally bow to the demands of the marketplace.

MR. FUHRMANN: We will now turn to the issue of what happens if you don't underwrite at all. Pat will discuss guaranteed issue products.

MR. PATRICK J. O'REILLY: I am going to be talking about how one company does not underwrite at all so, as you can imagine, my presentation on underwriting may tend to be a little short. As Curt mentioned earlier, I work for the Montgomery Ward Life Insurance Company (MWLIC) which is a subsidiary of the Montgomery Ward stores. We are life and health insurance mass marketers and our principal source of business is the Montgomery Ward Credit Card File. During the coming year MWLIC will send nearly 60 million insurance solicitation packages to the Montgomery Ward Credit Card File. Most of these will be in the form of special mailings sent out directly by the life insurance company. The balance will be in the form of inserts enclosed with the regular monthly credit card statement sent out by our parent. In addition to these mailings to the cardholder file, another 6.5 million mailings will be made to existing policyholders for the purpose of selling additional insurance, whether it be an upgrade, a change or increase in amount of existing coverage, a new benefit rider, or an additional product. These combined solicitations are expected to produce $28 million of new annualized paid for premium. The Company's telemarketing activities, which also are directed at the cardholder file, and marketing efforts outside the credit card file are expected to produce another $10 million of new annualized paid for premium. My comments today will be based primarily on our expectations for mass marketing to the credit card and policyholder files via direct mail, particularly as these mailings relate to Hospital Income coverage.

Of the $28 million of new premium expected from mailing to the cardholder and policyholder files, 60%, or $17 million, will come from sales of our Hospital Income Product (HIP). The balance will be distributed among our Accidental Death and Dismemberment (AD&D), Medicare Supplement and Life Products.

Our Hospital Income policies are sold on a guaranteed issue basis. Even so, we are able to utilize some degree of selection in order to ensure an adequate rating structure. Three of our major selection tools are:

1. A scored cardholder file.

2. A preexisting conditions limitation.

3. A claims history file (for existing policyholders).

The first tool I'd like to talk about is the scored cardholder file.

The cardholder file contains a considerable amount of data about individual cardholders. Some of this, such as age, occupation, income level, etc., was initially recorded when the account was opened. And some of it is recorded on an ongoing basis. Examples of the types of ongoing data accumulated include amount and frequency of purchase, type of purchase,

credit payment history and so on. Periodically, we analyze the results of recent mailings to determine which of these characteristics tend to be good indicators of the likelihood to respond to an insurance solicitation. By using regression techniques, we cannot only identify the significant variables, but we can also determine their relative importance. In effect, we are able to develop a scoring equation which can be applied to the cardholder file in advance of subsequent mailings to select those individuals most likely to respond. These scoring equations are developed separately for each product. For HIP, some of the variables with the most predictive power with respect to response rates are the Open-To-Buy Amount (which measures how close a person is to his or her credit limit-the lower the available credit, the higher the response rate), Occupation, Age, Other Insurance, Monthly Income, and Months-On-File.

This last variable (Months-On-File) is fairly important. We've found that new cardholders are very responsive to insurance solicitations. In fact, we routinely send two solicitations to each new cardholder. An AD&D mailing is sent first (within a couple months after they come on file), followed by a HIP solicitation a few weeks later. We typically average about 6 responses per 1,000 mailings for each of these solicitations. Those individuals who don't respond to either of these new cardholder solicitations will likely be solicited again during a subsequent mailing to the cardholder file. We've found that those who have been on the file fewer than 6 months are more than twice as likely to respond to a subsequent solicitation than those who have been on for more than 24 months. Our overall responses remain fairly high during the first 24 months and then taper off dramatically.

Once a person buys insurance, he or she is no longer solicited as part of our regular, or rollout, mailings to the cardholder file. Policyholders are targeted separately for other coverages, and will generally produce about 5 or 6 responses per 1,000 mailings.

In advance of each cardholder mailing, we use the scoring equation to develop a score for each person on the file. Points are assigned based on the number and types of characteristics for each cardholder. These scores are used to determine expected response rates. Those individuals with the highest scores will have the highest response rates. This is a fairly effective selection device. For example, in a scored file ranked in descending order, the response rates for a given interval will usually be two to three times greater than those for the next lower interval. Or, looking at it another way, if one doubles the size of a mailing, responses will increase by only one-half or one-third. Although each product has its own scoring equation, this pattern of deterioration in response rates as one moves down the file seems to hold regardless of product.

Continuing with our mailing example, an expected response rate is assigned to each cardholder depending on his or her relative position in the scored file and on the overall response rate expected. This involves some judgment on behalf of Marketing and Marketing Research as to how overall response rates for the upcoming mailing will compare to those underlying the scoring equation. The major factor to be considered here is timing-response rates are generally better in the early months of the year,

and poorer in the summer and the period around Thanksgiving and Christmas. Also to be considered is the possibility of the file becoming "stale" - not enough new cardholders coming on the file and existing cardholders being solicited too often. Another important factor is the creative package which is mailed. If it's different from that used to develop the scoring equation, some adjustment may be needed. Or, if the package has been used too often, its effectiveness may have deteriorated. Through testing, it's possible to estimate the impact a new creative package will have on overall response rates for a full rollout mailing.

A book profit factor is also assigned to each cardholder. These book profit factors vary by age and are similar to the present value of book profits calculated using the Anderson method. These book profits, however, are calculated without a deduction for solicitation, or acquisition, costs. Book profits calculated in this manner represent the maximum amount of money that the Marketing Department could spend to acquire a policy without going below its return on investment profit objective. The product of the expected response rate and the book profit factor is called the expected profit factor. This is the factor we use to determine whether to mail to an individual. If we have a cardholder file sorted by expected profit factors in descending order, we can mail to cardholders until we get to the point where the solicitation cost exceeds the expected profit factor. For example, if solicitation costs were $300 per 1,000 mailings, which is $.30 per mailing, we would mail to anyone with an expected profit factor of $.30 or higher. It wouldn't matter whether an individual had an expected response rate of .003 combined with a book profit factor of $100 or had an expected response rate of .002 combined with a book profit factor of $150. Each would be solicited because each had an acceptable expected profit factor.

The book profits we use to determine the expected profit factor are marginal book profits; that is, only marginal expenses (in addition to benefits and reserve increases) are deducted from premiums. Once we determine the cutoff point in the file (the point where marginal cost equals marginal revenue) we can compute the average expected solicitation cost per dollar of annualized premium paid for. This is called the allowable acquisition cost. It is the standard against which we measure actual marketing results. It is also the value we use (along with full expenses, benefits and reserve changes) to test whether our overall profit objectives will be met.

The second tool we have available is the "preexisting condition" provision. This provision enables us to reduce the risk of anti-selection by excluding from coverage any condition for which a Covered Person was medically advised or treated within 12 months before the effective date unless the hospitalization begins after the person has been insured for 12 consecutive months. Experience on HIP policies which have never been upgraded shows first year morbidity equal to about 70% of morbidity for durations 2 and later, no doubt reflecting the effect of the preexisting conditions limitation. For durations 2 and later there doesn't appear to be much variation in claim costs by duration on these policies. One might have expected an upward deviation in the experience for duration 2 and possibly duration 3, reflecting increased utilization after the expiration

of the 12 months preexisting period. However, our experience doesn't show this. Claim frequencies for all business combined (upgrades as well as non-upgrades) also don't exhibit much variation by duration after the first duration.

The third tool we have available is the claims history file. This enables us to be selective in determining to which of our existing policyholders we will mail upgrade solicitations. In the past we imposed no new preexisting period on an upgrade, so to minimize the risk of anti-selection, we did not mail to anyone who had previously submitted a HIP claim. Within the past year we changed our upgrade procedure so that each upgrade has its own preexisting period. We also reduced the claim-free period to three years and have started an experience study to determine to what extent the claim free period should be further modified. We want to be able to mail to as many individuals in the policyholder file as possible. Because of the high response rates, such mailings to the policyholder file are very profitable. Typically about 4% of those policyholders contacted will respond to each upgrade mailing. We make these mailings twice each year.

At this point I'd like to talk a little bit more about some of our experience on HIP business. We computed ratios of our claim cost experience to intercompany experience as published in the 1977, 1979 and 1981 Society Reports and to the 1974 Nelson and Warren Hospital Table. Our experience was for the period 1979 through 1982, covering issues of 1972 and later. We adjusted both the intercompany data and the Nelson and Warren data to account for differences in elimination periods and benefit periods. Our product has a 0 day accident/3 day sickness elimination period and a lifetime benefit period. The adjustments were made using factors developed from Paul Barnhart's discussion in TSA Volume XXX.

For male insureds, the ratios of our claims costs to the adjusted published claims costs formed a bell shaped curve. Using the adjusted Nelson and Warren table as a base, the ratios rose from 140% at age 22 to 210% at age 37 and then declined back to 140% at age 57. For female insureds the ratios were just slightly lower than those for males at age 37 and above. At most ages under age 37 female claims costs were about 200% - 215% of the adjusted Nelson and Warren table. The high ratios for females under age 37 reflect the fact that our policy did not have a maternity exclusion whereas the published claims costs excluded maternity claims. When we adjusted our experience to remove the effects of maternity claims, we observed the same bell shaped pattern of claim ratios we had seen for males. At all ages the ratios were just slightly lower than those for males.

We also examined experience separately for spouses. About 50% of the policies issued to males and 15% of the policies issued to females have spouse coverage. Generally, we found male spouses have claims costs about 70% of those for male insureds, and female spouses have claims costs equal to about 85% of those for female insureds. The pattern of costs by duration for spouses follows that for primary insureds. That is, first year morbidity is about 70% of that for durations two and later. The only exception to the general pattern of claims costs by duration occurs with the cost of coverage for children. These costs are about 30% higher, rather than lower, in the first year as compared to costs for durations two and later.

MR. ROBERT H. PLUMB*: I specialize in the long-term disability (LTD) business. I am currently the chairman on research of the LTD business for the United Kingdom and the Republic of Ireland. Mr. Shapland's remarks on disability income were depressingly familiar. We recently published our own results in the United Kingdon on individual business. There are a few comments I would like to make on these results.

We've been through a very, very severe recession. Work ethic is important to us but we've seen the loss of work ethic. We've seen a rise in the number of early retirements. That has affected our claims experience badly. We've seen anti-selection, particularly in the group market. With regard to rating by sex, we have two problems in the United Kingdom. First, we have claim experience very similar to yours. Our experience on sickness for white collar females is approximately double that of males. We are not charging enough since we are only charging about 50% over the male rates. Second, and worse, we are being sued for it in the courts. In fact, I've worked for one company which is being sued. My comments must be modified since it is sub judice but suffice it to say that the United Kingdom sex discrimination act allows us to rely on actuarial or other data. We are being sued on the grounds that the data we've got isn't actuarial and that we cannot rely on it.

With regard to non-smoking discounts, we have one or two companies using them although my company is not. It was very interesting to hear that claims experience on return of premium policies was 40% lower than regular policies. We lost our tax relief on life policies recently. We very luckily do not have guaranteed surrender values or guaranteed policy values but it means that our market is now very similar to yours. We do, however, write non-cancellable business. I'm trying to move toward guaranteed renewable by using indexation of increases. We do not monitor our agents but I wish we did. It is interesting that we also need a pregnancy exclusion. Our claims experience has been rising but, at the same time, our agents are saying that premium rates should be reduced. That seems to be typical everywhere. I don't write individual medical business as such - in fact, it is a separate class of business in the United Kingdom. We have found that our experience is better on the individual side than the group side.

MR. O'REILLY: I have a question for Bob. I noticed that your charts showed the accident experience for blue collar as compared to white collar was about 200% for a zero day elimination period, then went down a little bit, and then went up to 400% for the 30 day elimination period. What do you think would account for that?

MR. SHAPLAND: It might be that the mix of occupations is different at the different elimination periods. The worse occupations might be in the longer elimination periods because companies were requiring longer elimination periods for worse occupations.

* Mr. Plumb, not a member of the Society, is an actuary from the United Kingdom.

MR. FUHRMANN: Dick, you mentioned monitoring your agents' experience and Bob, I think you also mentioned it. Could you comment in more detail on exactly what you do to monitor your agents and watch their loss ratios.

MR. DRAKE: We just started to follow a practice which had been done earlier on our property and casualty business, namely, classifying the loss ratios by agent and agency. We have been looking fairly closely at that for about the past year, particularly on our small group business. The problem is that experience under both our old small group business and our old individual medical business has deteriorated badly due to the rapid increases in inflation and the consequent increases in our rate. As a result, the good business has lapsed. We don't believe that the experience on much of our older business is truly representative for our agents and we are sure that we cannot convince our agents that their poor loss ratios are a result of their poor field underwriting. Unfortunately, since a large part of our field force is unionized, we don't have any disciplinary action beyond moral suasion which we feel we can use to try and get them to improve the quality of business. Perhaps the most we can do is segregate their business and look at it more closely than we would our general business.

MR. ROBERT B. SHAPLAND: I raised the issue because we do not do it on disability insurance and I was curious if anybody did. We do indirectly in the major medical area by rating by zip code. There our agents, or at least the managers, know that if they give us poor experience it is going to impact on the zip code factors. An agent has an incentive to write good business because it will lower his zip code factors and conversely, if he writes bad business it is going to increase his zip code factors. Dick you talked about agent business and controlling agents and also brokers. Do you have a rough idea whether brokerage business is worse, say, than agent business?

MR. DRAKE: Many people in our company had the impression that it was worse business. A few years ago, when we were selling our more comprehensive product, we ran a number of studies which showed, in fact, that the brokerage business from the points of view of persistency, morbidity, and I think expenses as well, was really not much different from the business written by our agents. In some respects it was, perhaps, a little better. The earlier poor impression may have been derived from home office underwriters who found that they had a lot of annoyance with applications submitted by brokers. Because the brokers were not familiar with the product or did not fill out the applications properly the underwriters had to keep going back for more information. But as far as the actual quality of business we have not found it to be worse than that submitted by our agents. That may not be true of all companies.

MR. FUHRMANN: We routinely review agent loss ratios, on both medical and disability income. With respect to any single agent, we rarely have enough sufficiently credible data to rely on the loss ratio alone. It does give us a starting point, however, for reviewing claims files and looking for more detail to determine if we have any problem areas.

One line we really have not talked about this afternoon is Medicare Supplement business. Pat I think you mentioned that you used a Medicare Supplement in addition to your hospital policy. Do you do anything differently in terms of what you look for there?

MR. O'REILLY: The only thing different would be that the product would develop its own scoring equation. Off hand, I really don't know what the most important variables would be.

MR. FURHMANN: Bob, I believe you also write Medicare Supplement business. Do you have any differences in underwriting from your regular medical business?

MR. SHAPLAND: I might mention that before Medicare was passed, several large companies tried to keep the government from passing the Medicare act by promoting insurance to people over age 65. These programs were written without any premium variation by age or sex and without regard to health although there were waiting periods for preexisting conditions. After Medicare was passed Medicare Supplement policies followed this same track. Over the following years, there has been a movement for companies to try to gain a competitive advantage by underwriting. Now there are quite a few companies underwriting that business to various degrees. Some companies ask very detailed health questions while others ask only one or two, for example, concerning hospital confinement. We forsee that there will be continued movement in that direction because companies writing non-selectively will be priced out of the marketplace. There is also movement in recognizing age and sex in pricing structures.

MR. O'REILLY: I would like to add one comment. As I mentioned when I was discussing hospital income, we periodically try to sell our policyholders additional coverage. Some of our older Medicare Supplement business was also of this type. People bought a policy for a specific amount. Each year we would offer them upgrades as the Medicare deductible increased. Roughly half of our policyholders elected the upgrades any time they were offered. About a year ago we decided to terminate all our existing business that was sold on this basis. We found that we were being selected against on the upgrades and we did not see any way to control this. We contacted all our policyholders who had these older policies and offered them one of our newer policies which had automatic upgrades. They were able to obtain the new policies without incurring new preexisting condition waiting periods and they were able to retain their original age basis. While our older product had one rate for all ages our new product has three age bands.

MR. FUHRMANN: There is one additional issue on which I would like to hear the panelists' reaction. One question you frequently hear in the medical business is, why underwrite, given the type of lapse rates existing in this line? Why not just rely on the preexisting conditions exclusion and do very minimal front-end underwriting? Simple reliance on the back-end would produce very little difference in experience. Do you have any reaction to that type of statement?

MR. SHAPLAND: My reaction is that the less healthy people would not lapse their policies. Reliance strictly on the pre-existing conditions exclusion would cause problems.

MR. DRAKE: We seriously considered relying only on the preexisting conditions exclusion with our new product. We were afraid to do this, however, so we ended up using the belt-and-suspenders approach. We realized we could not even rely much on the preexisting conditions exclusion because we were asking so many health questions in our application. Relying on the exclusions alone sound like a good idea but I'm not sure we would be the ones who would try it.

MR. SHAPLAND: That's right. If you have health questions, you can't reject preexisting conditions mentioned in the application.

MR. FUHRMANN: No, not if they are very detailed.

MR. SHAPLAND: I might mention that Mutual of Omaha has experimented with going non-select and not asking health questions on medical type programs over the years many, many times, and they have never worked.