Report

of the

Society of Actuaries Task Force

on

Preferred Underwriting

May 1996

Society of Actuaries
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The attached report is the result of the compilation of data received from U.S. and Canadian life insurance companies responding to our survey on preferred risk underwriting on U.S. life insurance business. The report presents the data received and provides opinions of the Task Force on Preferred Underwriting with respect to future trends.

We anticipate that this report will be read by a diverse audience as the material is of interest to various disciplines and possibly other countries as well. Although the data is based on U.S. practices only, we believe it has additional international applicability. We have tried to keep the report "simple", while still providing the needed detail.

Comments and suggestions from readers are welcome, as it is anticipated that another similar survey will be conducted in the future to provide an update to this report. Please write to the Task Force on Preferred Underwriting c/o The Society of Actuaries with any comments or suggestions.

The Task Force would like to thank those who participated in the survey. The survey was not easy to complete, often taking at least two individuals at each company to answer our detailed questions. We believe that the results are worthwhile as we are not aware of a study on preferred underwriting of this magnitude. The Task Force would also like to thank Lab*One* (HORL) for providing some recent laboratory data which can be used to help evaluate some of the survey data and set future preferred underwriting criteria. The Task Force would also like to thank a number of our peers for their review of this document and thoughtful comments. Finally, the Task Force would like to thank the Society of Actuaries staff for their help in completing this project, for without them, we would not have been able to undertake this project in the first place. Particular thanks go to Jack Luff and Karen Haywood of the Society of Actuaries for their tremendous assistance.

Task Force on Preferred Underwriting

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EXECUTIVE SUMMARY

The following summary will highlight some of the more significant items in this report. We recommend reading the full report to better appreciate the statements below.

- A survey was developed and sent to underwriters and actuaries at U.S. and Canadian life insurance companies requesting data on policies written in the U.S. 1,118 surveys were mailed; multiple surveys were mailed to companies because the Task Force did not cross-check the mailing lists. 51 companies responded that they had a preferred class in their product(s) and 59 companies responded that they did not have a preferred class.

- Criteria by product type was very similar and was not distinguished in the report.

- The respondents were fairly evenly split between those using only a preferred nonsmoker class and those using both preferred nonsmoker and preferred smoker classes. Only a few respondents used more preferred classes, but there appears to be a trend toward more rate classes since the data was obtained.

- The percentage expected to qualify for preferred varied considerably, from a low of 1% by one respondent for smokers to a high of 90%. The average was a little above 50% for both smokers and nonsmokers, but varied by age. Actual qualifying percentages ranged from 7% to 96% for nonsmokers; there was not enough smoker data to publish.

- The assumed ratio of standard to preferred mortality ranged from 1.05:1 to 2:1. The average varied by age and smoking status, but was about 1.35:1. This ratio was lower than the Task Force expected.

- Expected mortality for the preferred class, as a percentage of the 1975-80 Basic Table, ranged from 17% to 81% for nonsmokers with an average of just over 50% and from 60% to 175% for smokers with an average of just over 100%.

- Most testing of preferred criteria begins at $100,000 and at ages 16 - 20 according to the respondents. Exceptions to this are the electrocardiograms (both resting tests and stress tests) and prostate cancer testing where testing begins at notably higher face amounts and ages, respectively.

- Driving record and driving under the influence of alcohol or drugs (life style considerations), personal history of diabetes and family history of heart disease were the criteria most often used by the respondents. Each of these criteria was used by over 90% of the respondents, with driving being the most widely used.

- Respondents tended to verify information which was most easily verifiable and which proved most cost effective to verify. Personal history criteria and the most prevalent life style criteria were, in general, verified much more frequently than family history criteria. The information which was more frequently verified was also more likely to be used to preclude an applicant from preferred.

- Ranges of maximum readings which will allow an applicant to qualify for the preferred class are shown for the various criteria. For example, the range for the acceptable maximum level of total cholesterol was 200 mg. to 351 mg., with an average of about 250 mg. Ranges of readings of actual laboratory results from applicants are also contained in the report.

- Many of the respondents allow a certain number of debits before the applicant will not qualify for preferred. The range here is from 0 to 100, with an average of just below 30. Whether the debits were applied before or after credits was split fairly evenly between the respondents.

- Preferred criteria and products are evolving and will continue to do so for some time to come.

- As more companies develop preferred products, companies that do not offer such products will need to consider developing preferred products for competitive and defensive reasons.

REPORT
OF THE
SOCIETY OF ACTUARIES TASK FORCE
ON
PREFERRED UNDERWRITING

INTRODUCTION

Classification of risk by underwriting factors which exhibit different trends and levels of mortality has been used for many years. Impaired or substandard risk classifications with appropriate increases in premium, or alternative offers of coverage, have been in use for over 100 years. By the 1940's, distinctions were made by sex. The 1970's introduced a smoker/nonsmoker split and some companies offered discounts for joggers and regular exercisers. In the 1980's, a further refinement of the smoker class was introduced with a tobacco/nontobacco distinction. Now, in the 1990's, risk selection is being refined further with the introduction of one or more "preferred" risk classifications from the general pool of non-substandard applicants.

For purposes of this report, the "preferred" class will refer to the class with the better expected mortality drawn from the group of non-substandard applicants. The "standard" class will refer to the residual class, the class with the worse expected mortality drawn from the group of non-substandard applicants.

The new "preferred" class is more varied than any of its predecessors. There are variations from company to company, product to product and even from one generation of a product to the next generation as preferred risk underwriting continues to evolve.

How are these new preferred underwriting classes established? They are derived by splitting an aggregate class into two or more classes where each class is distinguished by its expected mortality results. This is true whether splitting for sex, smoking status or any other reason. What distinguishes this new "preferred" class is a number of new factors (or criteria) which are used to distinguish better mortality risks from the remaining risks which will have a higher anticipated rate of death. This report identifies and summarizes these criteria and some of the related assumptions from a survey of over 50 companies now offering preferred risk products.

When splitting aggregate mortality into 2 classes, the following two formulas are commonly used:

Aggregate q = (Preferred q x % Qualifying) + (Standard q x (1 - % Qualifying))

and

Standard q = Ratio x Preferred q

where:
- Aggregate q is the aggregate mortality rate at a particular age.
- Preferred q is the preferred mortality rate at that age.
- % Qualifying is the percentage qualifying for the preferred class at the same age (this depends on the criteria used).
- Standard q is the nonpreferred nonsubstandard class (as defined above) mortality rate at the same age.
- Ratio is the ratio (greater than 1) that when multiplied by the preferred mortality rate produces the standard mortality rate. It is also equal to Standard q divided by Preferred q. This is the amount by which a company feels that the mortality of its standard class will exceed that of its preferred class. Note that this ratio may vary by age.

With these two equations, a company can determine its theoretical expected mortality for all ages and classes. The Task Force did not attempt to try to take into consideration any of the other factors the pricing actuary could consider in deriving expected mortality (e.g. lapses, expenses, not takens). Also, there are other formulas which can be used to solve for preferred and standard mortality.

Besides the aggregate mortality assumption, there are two critical assumptions that need to be made. These assumptions are made based on the preferred underwriting criteria chosen.

The first assumption is the percentage expected to qualify for the preferred class. Assumptions can range from 1 to 99%. The lower the assumption the more aggressive or competitive the rate will be. However, the company is likely to experience more policyholder and agent dissatisfaction and complaints. There may be additional pressures on the underwriters to make exceptions and there may also be higher than normal not takens. These extra not takens should be accounted for as an increased expense level in the pricing model. The Task Force did not ask about not takens in the survey because it was felt that many companies had yet to develop a precise way of measuring these extra not takens.

With a high percentage expected to qualify assumption, more applicants will qualify for the preferred class and there will be fewer complaints; however, the rate that is offered may not be materially different from that offered on an aggregate basis.

An interesting phenomenon with this assumption is that as the percentage expected to qualify increases, both the preferred and standard expected mortality also increase. The reverse is also true. That is, as the expected qualifying percentage decreases, both the preferred and standard expected mortality assumptions decrease as well. The reason for this phenomenon is the constant relationship between standard and preferred mortality.

Companies balance these issues in determining an appropriate assumption to make. Once the assumption is made and the product is introduced, the actual percentage qualifying is generally monitored. Initially the number of applicants applying for preferred often exceeds that which was expected because the agents have a tendency to bring their better risks forward. The percentage of preferred business that is actually placed initially will also often exceed expectations for this reason and because of a higher percentage of not takens in the standard class. If the actual percentage that qualifies for preferred does not match the expected after an initial period, actual to expected mortality results are generally reviewed.

If the actual mortality results are consistent with what is expected, this may be satisfactory to the company. There may be other reasons for getting a disproportionate share of the preferred or standard class, such as a particular agency's book of business or a specific criterion which is quite different from what other companies use.

The second critical assumption is the ratio of standard to preferred mortality. The survey showed a wide range of assumptions here as well. The assumption depends on the criteria chosen and how strictly it is applied. As noted above, this assumption may vary by age.

Why have these new “preferred” classes developed? There are a number of reasons including legitimate discrimination and equity considerations. However, the main reason for the introduction of preferred classes appears to be its usefulness as a marketing tool. When the new preferred classes were introduced, those companies offering them gained a marketing advantage in that they could sell their products at a lower price than the competition, assuming the applicant qualified for the new preferred class.

Many preferred classes are being developed today for competitive reasons and/or for defensive purposes. Companies in markets where preferred products are available will be selected against if they do not also have a preferred product. As many companies ultimately yielded to market and agency pressures to convert to a smoker/nonsmoker product distinction, the Task Force feels that companies will also feel pressure to convert to a preferred/standard product distinction. Some companies have market niches where preferred products have not been introduced. However, this trend can change over time. If it does, those companies that do not develop preferred products will attract a disproportionate share of standard risks in their aggregate class; this is likely to lead to higher than expected mortality results.

BACKGROUND

The Preferred Underwriting Task Force of the Society of Actuaries was formed in early 1995. The first meeting was held February 27, 1995 and the following mission statement was adopted:

- Create a survey to determine the preferred risk criteria companies are using and the assumptions that they made with respect to percentage qualifying for preferred and expected mortality. Where changes to the criteria have been made over time, determine what these changes have been and why they were made. Analyze and report on the results.

- If available, determine how the actual percentage qualifying for the preferred rating compares to initial assumptions.

- If available, determine how mortality experience in the preferred and standard classes compares to initial assumptions.

- Assess the feasibility of developing an industry experience study of preferred mortality risk.

- Determine the data requirements for an experience study of preferred risks.

The first two goals were completed as described below. The Task Force plans to reconvene later this year to determine if the last three goals can be accomplished.

A survey was developed and sent to underwriters and actuaries at U.S. and Canadian life insurance companies, requesting data on policies written in the U.S. 1,118 surveys were mailed. Although there was some duplication in effort (i.e. an actuary and an underwriter at the same company may have both received a survey), the Task Force did not cross check its mailing lists.

The Task Force mailed the surveys in June, requesting responses back by September 1 with data based on products being sold as of July 1, 1995. In a couple of instances, new products were to be introduced in July and these products were described in the survey instead of the older obsolete products. The Society of Actuaries received and compiled the data in order to preserve the anonymity of the responses. While the task force saw individual company data, the names of the corresponding companies were not known by the Task Force members. 51 companies completed the survey in whole or in part; 59 companies responded that they did not have a preferred underwritten product. A list of the 51 companies who completed the survey is shown in the Appendix at the end of the report.

The Task Force met November 2 - 4, 1995 to review the compiled data and found a number of inconsistencies in the data. Some of the participants were called by the Society of Actuaries to clarify the inconsistencies.

A draft of the report was prepared and the Task Force met again March 21 and April 19 to finalize the report.

The summary of the results that follows shows aggregate results. Where there were insufficient responses to a particular question, these questions were eliminated and are not included in this report. Individual company data is not available to our readers. The purpose of this report is to provide a snapshot of what the industry is doing with respect to preferred underwriting, not what particular companies are doing.

PURPOSE OF REPORT

The purpose of this report is to describe the results of the survey which the Society of Actuaries Task Force on Preferred Underwriting sent to U.S. and Canadian life insurance companies. The intent of the survey was to gather information on the many differences in "preferred" underwriting. This report describes what preferred risk criteria are currently being used, their prevalence, related assumptions, and how accurate these assumptions have proven. This latter item, unfortunately has not been fully developed in this report as the required experience is still lacking in many areas.

Note that the intent of this report is not to suggest a right or even common set of criteria for those in the industry to use. Its sole purpose is to provide an objective observation of what companies are doing with respect to the new preferred risk underwriting class and not to set or even suggest pricing assumptions or other underwriting criteria.

STRUCTURE OF REPORT

The report is divided into four sections. Section 1 provides a general description of the type of products included, minimum and maximum age and face amount requirements, and the volume of business involved. Section 2 provides minimum age and face amount requirements for each of the underwriting criterion/tests used to distinguish preferred risk. Section 3 discusses specific preferred criteria and how frequently they are used among the companies surveyed. Section 4 provides ranges of values used for each of the preferred criteria and discusses any additional criteria used in the determination of a preferred class which the survey did not specifically address. This section also provides actual laboratory results.

CAVEATS

While we anticipate and hope that the results prove useful for the industry, there are several caveats which must be made:

- The data which the Task Force received, while fairly comprehensive, is by no means a look at the whole industry or all preferred products in the marketplace.

- The data itself, while reviewed for inconsistencies, was not verified with the individual companies. The Task Force relied on the data provided for this report.

- The results may be indicative of the preferred criteria as of the middle of 1995, however, this is a constantly changing environment. Criteria used and qualification requirements appear to change frequently. Even the classes themselves are changing. For example, since the survey was completed, a number of companies have moved to a third nonsmoker class, the most common name being Super-Preferred for this new best preferred class.

Terminology varies from company to company and even product to product. Some common names for the preferred class are preferred, select, elite, and super-preferred. There is no common definition. Preferred rates on one company's product may be better than Super-Preferred rates on another company's product.

Not all companies answered all of the questions; therefore, the number of respondents may vary by question.

SECTION 1 - GENERAL CHARACTERISTICS

This section provides general characteristics of the responding companies, the preferred products they use, and some of the basic preferred assumptions for males.

Responding Companies

Table 1.1 provides a breakdown by A.M. Best Financial Size Category of the 51 companies responding to the survey. The breakdown is by "policyholder's surplus and conditional reserve funds" and is based on 1995 results. A complete list of the companies is shown in the Appendix.

Table 1.1 - Responding Companies' Size

Category	Size (Millions)	Number of Companies
III - V	$2 - 5	7
VI - X	$25 - 750	29
XI - XV	$750 - 2,000	15

Product Type

The companies were asked to respond to the questions based on the three product types listed in Table 1.2. The Task Force did not notice any significant differences in underwriting criteria by product type. Where there were differences it appears that the differences were due to issue limits (amount and age) rather than selection criteria.

Table 1.2 - Product Type

Product Type	No. of Respondents
Term	48
Universal Life	27
Whole Life	20

The Task Force also asked if companies used preferred in their other products. Results are shown below in Table 1.3. About 1/2 of the respondents used preferred underwriting in their multi-life products and about 3/4 used preferred underwriting in their variable products.

Table 1.3 - Other Products

	No. of Respondents with:	
Product Type	Product	Preferred Class
First-to-die	16	8
Second-to-die	35	17
Variable	19	15

Number of Risk Classes

The Task Force asked for the total number of risk classes used by the respondents. As can be seen in Table 1.4 below, there is a fairly even split between products with 3 (no smoker preferred class) and 4 risk classes. Observations from the Task Force subsequent to the survey indicate that there is a movement toward more risk classes (e.g. 5 classes).

Table 1.4 - Number of Risk Classes

No. of Classes	No. of Respondents
3 (1 Pref. Class)	26
4 (2 Pref. Classes)	22
5+ (3+ Pref. Classes)	3

Percentage Expected to Qualify for Preferred

We asked companies for the percentage of applicants which they assumed would qualify for the preferred risk class based on the preferred criteria they use. Table 1.5 shows these results for nonsmokers and Table 1.6 shows the results for smokers.

Table 1.5 - Percentage Expected to Qualify for Preferred (Nonsmokers)

	No. of Respondents at Nonsmoker Ages:				
Percentage	25	35	45	55	65
0 - 19	3	2	2	3	3
20 - 39	7	8	8	7	8
40 - 49	5	5	5	5	7
50 - 59	9	9	10	12	11
60 - 69	9	10	11	10	9
70 - 79	4	4	3	3	2
80 - 89	5	4	5	4	4
90 +	2	2	1	1	0
Low	8%	15% (2)	15% (2)	10% (2)	3.5%
High	90%	90% (2)	90%	90%	84%
Average	54%	54%	53%	52%	49%

The number in parenthesis, in this table and subsequent tables, indicates the number of companies that responded with the value shown. The average, in this table and subsequent tables, is the arithmetic (i.e. not weighted) average.

Table 1.6 - Percentage Expected to Qualify for Preferred (Smokers)

	No. of Respondents at Smoker Ages:				
Percentage	25	35	45	55	65
0 - 19	1	1	1	0	0
20 - 39	1	1	1	1	1
40 - 49	2	2	2	2	4
50 - 59	4	4	4	6	4
60 - 69	2	2	3	1	1
70 - 79	2	3	2	2	2
80 - 89	3	2	3	3	3
90 +	1	1	1	1	0
Low	6%	3%	1%	25%	25%
High	90%	90%	90%	90%	84%
Average	57%	57%	57%	59%	56%

There is a wide range of assumptions for both preferred smokers and nonsmokers. The assumptions also vary by age; 10 respondents varied nonsmoker assumptions by age and 4 respondents varied smoker assumptions by age. When there was variance by age, the percentage expected to qualify for preferred was typically higher at the younger ages and lower at the older ages. For the smokers, the company with the lowest percentage expected to qualify at ages 25, 35, and 45, did not respond at ages 55 and 65.

Note that the average expected percentage to qualify for smokers is higher than that for nonsmokers given basically the same criteria. This is contrary to what we would have expected. We looked at the results in more detail and found that those who responded to the smoker question tended to be those companies which expected a higher percentage of non-smokers to qualify for preferred. In fact, the only respondent that varied the expected percentage between smoker and nonsmoker had a lower percentage for smokers than nonsmokers.

Actual Percentage Qualifying for Preferred

The actual percentage qualifying for preferred is shown in Table 1.7 below. The data is for nonsmokers only and is not broken down by age. The age 45 expected results are shown for comparison purposes.

Table 1.7 - Actual Percentage Qualifying for Preferred for Nonsmokers, All Ages

	No. of Respondents:	
Percentage	Actual	Age 45 Expected
0 - 19	4	2
20 - 39	5	8
40 - 49	4	5
50 - 59	4	10
60 - 69	9	11
70 - 79	4	3
80 - 89	1	5
90 +	3	1
Low	7% (2)	15% (2)
High	96%	90%
Average	53%	53%

The overall actual results are fairly close to expected on an aggregate basis; however, they do vary company to company. For example, when comparing actual results for all ages to the expected at age 45, 16 respondents had actual results greater than expected, 13 respondents had results less than expected and 4 respondents had the same actual and expected. There were about 6 companies that had actual results substantially different than expected in this comparison.

Ratio of Standard to Preferred Expected Mortality

The Task Force asked for the ratio of standard to preferred expected mortality. Table 1.8 shows the results for nonsmokers and Table 1.9 shows the results for smokers. The range was narrower than the Task Force expected. Ratios varied by age for 7 nonsmoker respondents and 5 smoker respondents. The ratios tended to be a little higher at the older ages; however, there were some that had higher ratios at the younger ages. The ratios tended to be lower for smokers than nonsmokers, with 6 of 17 respondents doing this.

Table 1.8 - Ratio of Standard to Preferred Expected Mortality (Nonsmokers)

	No. of Respondents at Nonsmoker Ages:				
Ratio	25	35	45	55	65
1.00 - 1.19	5	4	4	3	3
1.20 - 1.29	7	6	5	7	8
1.30 - 1.39	15	17	16	15	15
1.40 - 1.49	5	5	8	7	7
1.50 +	7	8	7	8	7
Low	1.05	1.10	1.10	1.11	1.11
High	1.64	1.59	1.59	1.64	2.00
Average	1.33	1.35	1.36	1.36	1.37

Table 1.9 - Ratio of Standard to Preferred Expected Mortality (Smokers)

	No. of Respondents at Smoker Ages:				
Ratio	25	35	45	55	65
1.00 - 1.19	4	3	3	2	1
1.20 - 1.29	4	5	4	5	7
1.30 - 1.39	4	5	5	5	4
1.40 - 1.49	2	2	3	3	3
1.50 +	2	2	2	2	2
Low	1.05	1.11	1.15	1.15	1.15
High	1.50 (2)	1.50 (2)	1.50 (2)	1.50 (2)	1.50(2)
Average	1.30	1.31	1.33	1.33	1.33

Expected Mortality

The Task Force asked for expected mortality assumptions for the preferred class for male decennial ages between 25 and 65, inclusive, for durations 1 and 6. Table 1.10 shows results for nonsmokers and Table 1.11 shows results for smokers. Results vary widely. There is no consistency among respondents by either age or duration. For age 45 nonsmokers, 18 of the respondents increased their assumption by duration, 13 decreased it, and 11 remained the same. For the age 45 smokers, 10 respondents increased their assumption by duration, 2 decreased it, and 5 remained the same.

Table 1.10 - Preferred Class Expected Mortality (Nonsmokers)

Percentage of 1975-80 Basic	No. of Respondents at Nonsmoker Ages: 25 Dur. 1	25 Dur. 6	35 Dur. 1	35 Dur. 6	45 Dur. 1	45 Dur. 6	55 Dur. 1	55 Dur. 6	65 Dur. 1	65 Dur. 6
< 30	4	1	1	1	3	2	2	1	2	1
30 - 39	2	3	5	4	6	3	5	4	2	1
40 - 49	10	12	16	17	13	16	12	12	12	12
50 - 59	13	12	11	12	13	14	14	15	13	15
60 +	12	12	9	7	7	7	9	9	12	11
Low	24%*	25%	24%	25%	24%	25%	22%	25%	17%	25%
High	74%	80%	70%	80%	70%	80%	72%	80%	79%	81%
Average	52%	53%	50%	50%	48%	50%	49%	51%	52%	54%

* 2 companies had this value.

Table 1.11 - Preferred Class Expected Mortality (Smokers)

	No. of Respondents at Smoker Ages:									
	25		35		45		55		65	
Percentage of	Dur.		Dur.		Dur.		Dur.		Dur.	
1975-80 Basic	1	6	1	6	1	6	1	6	1	6
< 100	8	8	10	7	6	5	6	4	8	10
100 - 109	5	4	4	8	5	6	2	4	3	1
110 - 119	3	2	1	0	3	3	5	5	0	2
120 +	0	2	2	2	3	3	4	4	5	3
Low	49%	60%	73%	70%	71%	70%	73%	70%	66%	64%
High	119%	133%	138%	140%	156%	175%	164%	164%	167%	167%
Average	92%	99%	99%	101%	105%	107%	103%	110%	102%	101%

Age and Face Amount Limits

The Task Force asked for the minimum and maximum ages and minimum face amounts for the preferred class. Except for 1 smoker respondent and 2 nonsmoker respondents, the minimum age for preferred class ranged from 16 to 21. The 3 exceptions were all higher ages, with 30 being the highest minimum age for the preferred class. Maximum ages for preferred are shown in Table 1.12 and minimum face amounts for preferred are shown in Table 1.13.

Table 1.12 - Maximum Age for Preferred Class

Max. Age	Nonsmoker	Smoker
60 - 65	8	2
70	16	6
75	13	8
80	11	3
85 - 90	2	0

Table 1.13 - Minimum Face Amount for Preferred Class

Min. Face ($000)	Nonsmoker	Smoker
< 100	6	4
100	34	13
101 - 249	2	1
250	5	1

Most respondents begin their preferred class at $100,000. The lowest minimum in the survey was $10,000 and the highest minimum was $250,000.

SECTION 2 - MINIMUM AGE AND FACE AMOUNT REQUIREMENTS

The following comments summarize the responses to questions which requested contributors to provide MINIMUM age and MINIMUM face amount at which specific underwriting requirements are routinely required for an applicant to be considered for a preferred class. In general, minimum face amounts are not comparable to minimum age requirements because as age increases, underwriting requirements apply at lower face amounts.

Information was requested on each of the following underwriting requirements: saliva testing, blood profile testing, dried blood spot (DBS) testing, urine testing, cotinine testing, cocaine testing, paramedical evidence of insurability, nonmedical evidence, attending physician's statement (APS), motor vehicle report (MVR), resting electrocardiogram (EKG), prostate specific antigen (PSA) testing, and stress (exercise EKG) testing. Companies may use various combinations of many of these requirements, depending on both the applicant's age and the face amount of insurance requested.

Saliva Testing

Oral fluid (i.e., saliva) can be used to test for evidence of infection by the HIV virus. Also, it can be used to test for cotinine (indicator of recent use of tobacco or nicotine) and cocaine (indicator of recent use of cocaine or crack). The fluid may be collected by an agent or paramedical technician using a noninvasive collection device.

Only three respondents reported using saliva testing on applicants for a preferred class. Two of the three companies require saliva at a distinctly lower threshold than the minimum used for preferred applicants. These three companies, along with one other, require saliva testing for the standard class.

This is consistent with what we would have anticipated in that the minimum face amount at which a test is required depends more heavily on the potential value of the test than on whether a preferred class is available.

We also anticpate that saliva testing will become more commonplace after the Food and Drug Administration approves the use of saliva in confirmatory testing for infection by the HIV virus. Some companies may find greater financial incentive to employ such testing at lower amount limits.

Blood Profile Testing

Blood profile testing provides information that can be used to assess the relative risk of mortality with respect to coronary artery and other cardiovascular diseases, diabetes, liver disease, hepatitis, possible alcohol abuse, antibodies to Human Immunodeficiency Virus (HIV) infection and other impairments. As many as 20 - 30 tests may be performed on the blood sample, which is collected by paramedical technicians or nurses by syringe.

Tables 2.1 and 2.2 show the minimum age and face amount requirements, respectively, for preferred and standard classes for blood profile testing.

The ages at which blood profile testing begins to be required are concentrated in the range of 16 - 20 years of age for both the preferred and standard classes. In general, the minimum age for an applicant to be considered on a preferred basis is usually higher than that required for other classes of risk.

Blood profile testing begins at exactly $100,000 for about 3/4 of respondents.

Some companies use relatively high face amount limits before requiring a blood profile. Instead of a profile, some companies use a dried blood spot (DBS) test or saliva test at thresholds as low as or much lower than other companies begin using a blood profile. Several companies indicated that a blood profile is not required until the face amount is at least $500,000; however, each of these companies requires the DBS instead of full blood profile testing at significantly lower amounts among applicants for either a preferred or standard class.

Table 2.1 - Minimum Age Requirements for Blood Profile Testing

Min. Age	Preferred	Standard
0 - 15	2	11
16 - 20	38	33
21 +	8	3
Low	0	0 (8)
High	35	50

Table 2.2 - Minimum Face Amount Requirements for Blood Profile Testing

Min. Face ($000)	Preferred	Standard
< 100	2	3
100	34	32
101 - 249	3	4
250 +	9	8
Low	$0	$0 (2)
High	$500,000 (4)	$500,000 (5)

Dried Blood Spot (DBS) Testing

The DBS test provides information that can be used to assess the relative risk of mortality with respect to cardiovascular disease, diabetes, liver abnormalities, antibodies to HIV and possible chronic alcohol abuse. The specimen of blood is collected by fingerstick onto filter paper.

Table 2.3 shows the minimum age and Table 2.4 shows the minimum face amount requirements for preferred and standard classes for dried blood spot testing among respondents.

Seven of the eight companies that use the DBS to classify preferred applicants use the DBS at the minimum age they will consider an applicant on a preferred basis. Most of these companies test at face amounts considerably lower than the amounts at which they require a blood profile.

For consideration on a standard basis, most companies begin to use DBS at 16 - 20 years of age and at face amounts of $100,000 or less.

Table 2.3 - Minimum Age Requirements for Dried Blood Spot Testing

Min. Age	Preferred	Standard
0 - 15	1	3
16 - 20	5	9
21 +	2	1
Low	15	0
High	45	35

Table 2.4 - Minimum Face Amount Requirements for Dried Blood Spot Testing

Min. Face ($000)	Preferred	Standard
< 100	1	2
100	6	10
101 +	1	1
Low	$50,000	$25,000
High	$150,000	$150,000

Urine Testing

Urine can be used to test for cotinine (indicator of recent use of tobacco), cocaine (indicator of recent use of cocaine or crack), indications of poorly controlled diabetes and

kidney disorder. Such testing may also indicate use of a diuretic (antihypertensive agent) and illegal drugs other than cocaine. The fluid may be collected by an agent or paramedical technician using a noninvasive collection device.

Table 2.5 shows the minimum age and Table 2.6 shows the minimum face amount requirements for preferred and standard classes for urine testing among respondents.

Among 45 respondents, about 3/4 indicate they begin requiring urine at 16 - 20 years of age and nearly as many begin such testing at face amount of exactly $100,000 in selecting applicants for a preferred class.

In screening applicants for a standard class, the same 45 respondents also revealed that 1/2 were requiring urine at 16 - 20 years of age and 3/4 begin at face amount of exactly $100,000.

Table 2.5 - Minimum Age Requirements for Urine Testing

Min. Age	Preferred	Standard
0 - 15	1	5
16 - 20	35	32
21 +	9	8
Low	15	0 (3)
High	35	66

Table 2.6 - Minimum Face Amount Requirements for Urine Testing

Min. Face ($000)	Preferred	Standard
< 100	5	10
100	33	30
101 - 249	1	3
250 +	6	2
Low	$0 (2)	$0 (3)
High	$250,000 (6)	$250,000 (2)

Cotinine Testing

The cotinine test can be conducted on a specimen of blood, dried blood spot, urine or saliva to determine whether it indicates evidence of recent use of tobacco or nicotine. Since the test is conducted optionally (i.e., is not performed unless authorized by the insurer), an insurer can decide which combinations of age and amount limits best fit the needs for employing such test as well as which body fluid may be preferential to tap in light of costs vs. potential benefits.

Table 2.7 shows the minimum age and Table 2.8 shows the minimum face amount requirements for preferred and standard classes for cotinine testing among respondents.

About 3/4 of respondents begin cotinine testing among applicants for preferred class at 16 - 20 years of age. Also, 3/4 begin such testing at exactly $100,000.

In selecting applicants for a standard class, cotinine testing is used at somewhat younger ages and smaller face amounts than those used for the preferred class, reflecting somewhat lower minimum ages and amounts required for consideration on a standard basis.

Table 2.7 - Minimum Age Requirements for Cotinine Testing

Min. Age	Preferred	Standard
0 - 15	1	5
16 - 20	34	31
21 +	8	8
Low	15	0 (2)
High	35	66

Table 2.8 - Minimum Face Amount Requirements for Cotinine Testing

Min. Face ($000)	Preferred	Standard
< 100	4	9
100	33	29
101 - 249	1	3
250 +	6	2
Low	$0	$0 (4)
High	$250,000 (6)	$250,000 (2)

Cocaine Testing

The cocaine test can be conducted on a specimen of urine or saliva to determine whether it indicates evidence of recent use of cocaine or crack. Since the test is performed optionally (i.e., not performed unless authorized by the insurer), an insurer can decide the ages and amounts at which the test should be conducted routinely. Also, there is a choice as to which medium (i.e., urine or saliva) to use for the specimen to be tested.

Table 2.9 shows the minimum age and Table 2.10 shows the minimum face amount requirements for preferred and standard classes for cocaine testing among respondents.

With respect to applicants for a preferred class, nearly 3/4 of respondents begin using a cocaine test at 16 - 20 years of age. Such testing begins at exactly $100,000 for nearly 3/4 of respondents.

For individuals applying for a standard class, 3/4 of respondents indicate cocaine screening begins at 16 - 20 years of age. Again, 3/4 of respondents begin testing at exactly $100,000.

Table 2.9 - Minimum Age Requirements for Cocaine Testing

Min. Age	Preferred	Standard
0 - 15	1	6
16 - 20	35	32
21 +	8	7
Low	15	0 (3)
High	35	66

Table 2.10 - Minimum Face Amount Requirements for Cocaine Testing

Min. Face ($000)	Preferred	Standard
< 100	4	9
100	33	30
101 - 249	2	4
250 +	6	2
Low	$0	$0 (3)
High	$250,000 (6)	$250,000 (2)

Paramedical Examination

The paramedical examination became popular during the 1970s when confidence in the information obtained from medical examinations (i.e., exams performed by physicians) was deteriorating and there were concerns about the balance between the costs and benefits associated with such exams. Paramedicals are performed by trained nurses and other paramedical technicians. The information obtained includes completion of Part II of the application (i.e. the applicant's medical history). The exam includes obtaining height and weight, blood pressure, pulse rate, an optional pulmonary function test, and the collection of blood, urine or saliva.

Table 2.11 shows the minimum age and Table 2.12 shows the minimum face amount requirements for preferred and standard classes for paramedical evidence of insurability among respondents.

Used somewhat less frequently than the other underwriting requirements mentioned above in this Section of the report, about 2/3 of the respondents begin requiring paramedical evidence of insurability at 16 - 20 years of age to consider an applicant for a preferred class. Such evidence begins to be required at exactly $100,000 for about 1/2 of the respondents. These amounts are also somewhat higher than those used for the other requirements mentioned above, indicating a shift away from use of the paramedical and towards heavier reliance on blood, urine or saliva testing.

To consider applicants on a standard basis, 30% of the respondents wait until 16 years of age to begin routinely requiring a paramedical while 40% begin routine use of that requirement at ages 16 - 20 years of age. This is less than in the other tests in this Section and is not surprising due to the need for a higher minimum age for applicants to be both considered and recognized as a preferred vis-a-vis a standard risk. Also, for applicants on a standard basis, only 1/3 respondents begin requiring a paramedical at exactly $100,000.

Table 2.11 - Minimum Age Requirements for Paramedical Testing

Min. Age	Preferred	Standard
0 - 15	2	12
16 - 20	28	17
21 - 30	6	2
31+	7	11
Low	0	0 (9)
High	61	66 (2)

Table 2.12 - Minimum Face Amount Requirements for Paramedical Testing

Min. Face ($000)	Preferred	Standard
< 100	5	7
100	21	14
101 - 249	4	7
250 - 499	10	9
500 +	3	4
Low	$10,000 (2)	$0
High	$1,000,000	$1,000,000

Nonmedical Application

The nonmedical application provides less medical information than an examination by either a paramedical technician or physician. It is the minimum level of information needed for an application to be considered on a regular basis (i.e., not guaranteed- or simplfied-issue underwritten).

Table 2.13 shows the minimum age and Table 2.14 shows the minimum face amount requirements for preferred and standard classes for nonmedical evidence of insurability among respondents.

There were only 19 responses to the questions about the minimum age and face amount at which a nonmedical began to be required for consideration on a preferred basis. By age, 80% of the responses fell into the range of 16 - 20 years. By amount, 2/3 were at exactly $100,000; this corresponds to the minimum face amount required for the preferred class by about 3/4 of the respondents.

To be considered on a standard basis nonmedically, 60% of the respondents indicated zero was the minimum age to be eligible. Although the minimum face amounts at which an applicant may be considered nonmedically should correspond to a company's minimum policy size, 40% of the responses indicated a face amount of $100,000 or higher was needed for consideration nonmedically on a standard basis.

Table 2.13 - Minimum Age Requirements for Nonmedical Testing

Min. Age	Preferred	Standard
0 - 15	1	20
16 - 20	15	8
21+	3	2
Low	15	0 (19)
High	60	35

Table 2.14 - Minimum Face Amount Requirements for Nonmedical Testing

Min. Face ($000)	Preferred	Standard
< 100	3	18
100	13	5
101 - 249	1	4
250 +	2	3
Low	$0	$0 (7)
High	$250,000 (2)	$250,000 (3)

Attending Physician's Statement (APS)

The APS may be the most valuable tool used in the risk classification process; however, it is rarely used as a routine underwriting requirement. It is typically used to clarify and supplement medical history disclosed by the applicant. For the purpose of this survey, many respondents may indicate "routine" use of the APS in cases where an applicant admits seeing a physician for a routine check-up or trivial illness. The APS is required more commonly in such instances among large amount and advanced age applicants.

Table 2.15 shows the minimum age and Table 2.16 shows the minimum face amount requirements for preferred and standard classes for the attending physician's statement among respondents.

Since an APS is ordinarily required based on any combination of the proposed insured's age, the amount of insurance applied for, certain stated reasons and the recency of an applicant's visit to a physician, the APS is used infrequently as a routine requirement to distinguish preferred from standard risks. Among respondents that obtain an APS to consider an applicant on a preferred basis, about 1/2 begin to routinely require an APS at 16 - 20 years of age. Moreover, about 1/2 of the respondents indicated an APS becomes a routine requirement at the face amount of exactly $100,000. In comparison to the other requirements mentioned above in this Section, there is greater variation in the upper limits for face amounts at which an APS begins to be used on a routine basis.

About 2/3 of the respondents to the question about the minimum age use the APS at age zero as a routine requirement for applicants on a standard basis. About 1/2 of the respondents begin requiring an APS routinely at amounts below $100,000.

Table 2.15 - Minimum Age Requirements for APS

Min. Age	Preferred	Standard
0 - 15	2	11
16 - 20	9	0
21 - 30	2	0
31+	4	5
Low	0	0 (10)
High	55	55

Table 2.16 - Minimum Face Amount Requirements for APS

Min. Face ($000)	Preferred	Standard
< 100	1	7
100	7	3
101 - 249	0	0
250 - 499	2	3
500 +	5	2
Low	$10,000	$0
High	$1,000,000	$500,000 (2)

Motor Vehicle Report (MVR)

The MVR is often used to clarify an applicant's admission of an adverse driving record. Also, the MVR may be requested routinely among young applicants applying for significant amounts of coverage, where the costs of the report are counterbalanced by the potential benefits from clarifying some of the violent death aspects of the risk.

Table 2.17 shows the minimum age and Table 2.18 shows the minimum face amount requirements for preferred and standard classes for the motor vehicle report among respondents.

Only 34 companies use the MVR on a routine basis to evaluate applicants for a preferred class. Not surprisingly, 5/6 of those companies begin using the requirement at 16 - 20 years of age. The minimum face amounts at which the MVR is routinely obtained vary dramatically among companies with 40% clustered at exactly $100,000 and 30% clustered at $1,000,000 and up.

The MVR is more apt to be a requirement on preferred applicants than on standard applicants. Among the 26 companies responding to questions about using the MVR to classify a standard risk, 3/4 use the requirement routinely starting at ages 16 - 20 years of age, but the minimum face amounts tend to be appreciably higher than those used for the preferred class.

Table 2.17 - Minimum Age Requirements for MVR

Min. Age	Preferred	Standard
0 - 15	0	5
16 - 20	28	19
21+	6	2
Low	16 (2)	0 (3)
High	35	35

Table 2.18 - Minimum Face Amount Requirements for MVR

Min. Face ($000)	Preferred	Standard
< 100	1	2
100	13	7
101 - 499	8	6
500 - 999	2	2
1,000 +	10	9
Low	$0	$0
High	$2,000,000	$2,000,000

Electrocardiogram (EKG)

The resting EKG is a noninvasive test used to screen applicants for evidence of coronary heart disease (CHD). By recording electrical impulses from the conduction system of the heart, the test identifies heart rate and rhythm disorders, blocks and heart enlargement. The test may also indicate a prior heart attack (myocardial infarction) and other underlying disease of the heart. The EKG, as virtually all tests, may falsely indicate evidence of disease when such disease is not present (i.e., false positive response) or falsely not reveal evidence of such disease when it is actually present (i.e., false negative response).

Table 2.19 shows the minimum age and Table 2.20 shows the minimum face amount requirements for preferred and standard classes for the electrocardiogram among respondents.

Among the 42 respondents to this question, 1/2 begin requiring the test prior to age 21 and about 1/4 begin at ages over 40. By face amount, slightly over half do not begin to use the test until the amount is at least $1,000,000.

Among applicants for a standard class, the EKG begins to be required by about 1/2 of the respondents before age 21. Over 1/2 of respondents begin routinely requiring the EKG at amounts of $1,000,000 and above.

Table 2.19 - Minimum Age Requirements for EKG

Min. Age	Preferred	Standard
0 - 20	22	23
21 - 30	1	1
31 - 40	8	8
41 - 50	5	6
51+	6	6
Low	15	0 (4)
High	71	71

Table 2.20 - Minimum Face Amount Requirements for EKG

Min. Face ($000)	Preferred	Standard
0 - 100	7	7
101 - 499	6	7
500 - 999	6	6
1,000 - 1,999	13	14
2,000+	10	10
Low	$100,000 (7)	$100,000 (7)
High	$5,000,000	$5,000,000

Prostate Specific Antigen (PSA) Test

The Prostate Specific Antigen (PSA) is a type of protein produced by the prostate gland tissue that can be normal, benign or malignant. Since the test is used by the medical community in routinely screening most males over age 50 or so, the majority of males at those ages who apply for insurance are likely to be aware of their most recent PSA test results. As a defensive position, many insurers choose to routinely require such testing among males applying for amounts of insurance that would otherwise require blood testing. In general, the higher the level of PSA, the more likely the possibility of the presence of prostate cancer. Levels of PSA considered acceptable will vary by age, by how quickly the levels rise over time and by the method used to determine the level.

Table 2.21 shows the minimum age and Table 2.22 shows the minimum face amount requirements for preferred and standard classes for the PSA test.

For males who apply for a preferred class, the minimum age at which the PSA test is required varies from 45 - 60 years. About half of the 23 respondents to the survey that offer a preferred class routinely require the PSA test on male applicants at 51 - 55 years of age who apply for significant amounts of coverage. (The minimum ages employed for applicants to a preferred class also apply to applicants for the standard class.)

For male preferred class applicants, about 40% of the respondents begin the test at a face amount of exactly $100,000 while over half of the respondents begin the test at $250,000 or higher. The distributions by amount on standard class applicants are very similar to those on preferred class applicants.

Table 2.21 - Minimum Age Requirements for PSA Testing

Min. Age	Preferred	Standard
< 50	1	1
50	9	9
51 - 55	12	12
56 +	1	1
Low	18	0
High	60	60

Table 2.22 - Minimum Face Amount Requirements for PSA Testing

Min. Face ($000)	Preferred	Standard
< 100	0	2
100	9	8
101 - 249	1	3
250 +	13	10
Low	$100,000 (9)	$50,000
High	$1,000,000	$1,000,000

Stress (Exercise EKG) Test

The stress test or exercise EKG is a noninvasive test used to screen applicants for evidence of coronary heart disease (CHD). The most common stress test performed is the treadmill which provides a continuous recording of an EKG during exercise on a motorized treadmill. The treadmill provides the underwriter with far more dagnostic and prognostic information than the resting EKG. In particular, the treadmill shows effect of exercise on the heart via blood pressure, chest pain, shortness of breath, arrhythmias (irregular heart rhythm) and level of exercise attained. The medical community uses the stress test for both screening and diagnostic procedures; for example, it can be used to screen for the presence of undiagnosed CHD and to evaluate whether chest pain may be related to CHD. The test is very expensive so its use is ordinarily reserved for ages 50 and above and when applying for jumbo amounts of insurance. It is unlikely that companies will require the stress test routinely among applicants for a preferred class and without doing so among similar applicants for the standard class.

Table 2.23 shows the minimum age and Table 2.24 shows the minimum face amount requirements for preferred and standard classes for the exercise electrocardiogram test among respondents.

Among the 39 respondents to this survey who routinely require a stress test, the corresponding minimum age and amount of insurance involved are independent of whether a preferred class is under consideration. To consider on either a preferred or standard class basis, the age threshold ranges from 16 - 61 years and the minimum amount for which the test is required ranges from $100,000 to $10,000,000.

Table 2.23 - Minimum Age Requirements for Stress Test

Min. Age	Preferred	Standard
0 - 20	12	11
21 - 30	2	1
31 - 40	2	4
41 - 50	17	16
51+	5	6
Low	16	16 (3)
High	61	61

Table 2.24 - Minimum Face Amount Requirements for Stress Test

Min. Face ($000)	Preferred	Standard
0 - 100	1	1
101 - 499	2	2
500 - 999	1	2
1,000 - 1,999	5	6
2,000+	29	27
Low	$100,000	$100,000
High	$10,000,000 (2)	$10,000,000 (2)

The choice of particular requirements to use in distinguishing preferred from standard risks may vary considerably from company to company and will reflect a myriad of factors, some of which include: the criteria a company chooses to use in selecting preferred risks, a company's market, its competitive environment and distribution system, its mortality and other financial objectives, its underwriting philosophy and expertise, and so on.

SECTION 3 - HOW PREVALENT ARE THE INDICATORS BEING USED AS A PREFERRED RISK CRITERION?

The criteria for underwriting preferred risks may be based on information contained in the application, results from laboratory tests, and other screening procedures.

The criteria from the application were divided into three broad categories: Personal History, Family History and Life Style Considerations. The Task Force examined each criterion based on the percentage of respondents using the response as a consideration for the preferred risk class. The percentage is based on the number of "yes" responses out of the total "yes" and "no" responses.

Companies were also asked whether each of the criteria they used for the preferred class was verified. Some respondents may have answered this question affirmatively only when verification of the criterion is made routinely for both underwriting classes. Decisions on which criteria to verify depend on the cost effectiveness and the availablity of the information.

We further asked companies, on each criterion, whether an applicant who did not meet the mimimum requirement was precluded from the preferred class. At times a company will use favorable information about other criteria to offset information that by itself may otherwise preclude someone from the preferred class. For example, if the total cholesterol level exceeds the stated requirement for preferred, the individual may still qualify for preferred if the high density lipoprotein (HDL) is sufficiently high so that the total cholesterol/HDL ratio is favorable.

The most frequently used criterion is driving record, which is used by all but one of 50 respondents. This may be a result of the low cost of verification of this information, as well as being a good means of evaluating the accidental risk factor. The other life style considerations which are used very frequently are DUI (driving under the influence of alcohol or other intoxicants), use of alcohol, use of illegal drugs and the use of cigarettes and other nicotine products. Some insurers provide a smoker preferred class and therefore the "yes" responses to this are a lower percentage than if preferred risk was only available to nonsmokers, as is the case for several insurers.

Personal history and family history are used primarily to evaluate the risk of non-accidental death. With one exception, the personal history responses are more commonly used than family history in underwriting preferred risks. Historical criteria are used for evaluating medical conditions such as diabetes, cancer, stroke and hypertension. The exception is heart disease, where family history is used more often than personal history. Although personal history is used more frequently, the family history is used by over half the respondents for many significant medical conditions.

Personal History

Table 3.1 presents the results for the personal history section of the survey. Health problems identified in this section frequently are used to screen the applicant for the preferred risk class. However, an unfavorable response on the application does not necessarily preclude preferred risk status. This is the case, for example, if the preferred risk class is based on the total debits rather than specific conditions. All of the personal history criteria are used by the majority of respondents in some fashion.

The most commonly used criterion is diabetes, followed by high cholesterol and hypertension . Treatment for hypertension and cholesterol are not used as much as the conditions themselves. Mental and nervous disorders are the least commonly used criterion but are used by 64% of the respondents.

Companies were asked whether the information from the application was verified. The information was generally verified by at least 3/4 of the respondents. This information can be readily verified by an APS or laboratory tests.

For each personal history criterion, over 1/2 of the respondents preclude an applicant with an unfavorable rating from the preferred class. More respondents tend to preclude applicants from preferred risk consideration using personal history criteria than family history. Personal history of diabetes was the only criterion (regardless of category) which all of the respondents precluded from preferred.

Table 3.1 - Response to Questions on Personal History Criteria

Criterion	Used for preferred class?		Is this information verified?		Preclude from preferred class?	
	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses
Personal History						
Diabetes	50	92%	42	86%	46	100%
High Cholesterol	49	88%	39	97%	42	76%
Hypertension	48	88%	40	88%	42	69%
Cancer	50	86%	39	79%	43	88%
Heart Disease	48	85%	37	86%	43	98%
Stroke	48	83%	36	78%	38	92%
Treatment for Hypertension	47	79%	37	92%	41	54%
Treatment for Cholesterol	48	69%	36	89%	39	56%
Mental & nervous	47	64%	34	74%	37	62%

Family History

Table 3.2 contains the results of the family history section of the survey. The tabulated results show that this section tends to be used less often than personal history. Family history of heart disease, however, is used quite frequently. Whether personal history or family history is used more frequently may vary by the age of the insured. At younger ages, family history becomes more important.

Family history of heart disease is more commonly used as a criterion than personal history of heart disease. As an editorial note, recall that the responses are based on a 45 year old male. Reliance on this criterion may vary by age, as noted above. After heart disease, other criteria are not used as much as family history counterparts.

Verification of the family history information is also less frequent than personal history information. This may be due to the expense and difficulty of verification, and the relatively low usage of the criteria.

Other than family history of heart disease and family history of cancer, applicants are precluded from preferred by less than 1/2 of the respondents.

Table 3.2 - Response to Questions on Family History Criteria

Criterion	Used for preferred class?		Is this information verified?		Preclude from preferred class?	
	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses
Family History						
Heart Disease	49	92%	41	27%	42	76%
Cancer	49	59%	37	19%	41	54%
Stroke	48	56%	36	17%	37	43%
Diabetes	49	51%	35	14%	37	46%
Hypertension	47	38%	33	3%	35	20%
Nonaccidental early death	46	30%	33	6%	35	20%

Life Style Considerations

Table 3.3 shows the results of life style criteria. The most commonly used criteria are life style, particularly driving record and driving under the influence (DUI). Some companies will issue the preferred class but charge an extra premium for hazardous avocation or aviation. This should be considered in interpreting the figures in the table.

Driving record is the single most commonly used criterion (regardless of category) for preferred. Within the life style category it is closely followed by DUI, alcohol, illegal drugs and nicotine. These categories also have the highest verification percentages (all 84% or higher). Again this may be a matter of relative ease of verification through MVR and laboratory tests, relative to the other criteria. The relative ease of verification may also be a factor in the use of these as criteria in the first place.

Exercise is used as a criterion by only one company. This result was surprising to some members of the Task Force since regular exercise was used extensively as a discount beginning in the 1970's. Its lack of use may reflect the difficulty of verification.

With most of the criteria, more than 1/2 of the respondents preclude an applicant from preferred.

Table 3.3 - Response to Questions on Life Style Criteria

Criterion	Used for preferred class?		Is this information verified?		Preclude from preferred class?	
	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses	Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses
Life Style Considerations						
Driving	50	98%	41	93%	48	77%
DUI	49	92%	37	92%	44	84%
Alcohol	49	88%	38	84%	42	76%
Illegal Drugs	49	88%	39	90%	43	93%
Other Tobacco Products	51	84%	41	90%	48	75%
Cigarettes	51	82%	40	95%	48	73%
Aviation	49	71%	39	69%	44	61%
Avocations/Hazardous Sports	50	66%	38	66%	43	56%
Foreign residence	47	60%	31	65%	38	61%
Occupation	50	52%	33	52%	39	49%
Foreign travel	46	50%	34	53%	38	32%
Prescription drugs	48	44%	30	53%	35	26%
Exercise	47	2%	28	7%	34	0%

Summary of All Criteria

Table 3.4 ranks the criteria, including the broad categories, by frequency of use in underwriting the preferred risk. The first two numerical columns repeat the information from Tables 3.1, 3.2 and 3..3. The purpose of this table is to present the most commonly used criteria in order of usage.

Table 3.4 - Criteria by Frequency of Use

Criterion	Category	Used for preferred class?	
		Total of "Yes" and "No" Responses	"Yes" as a % of Total Responses
Driving	Life Style	50	98%
Diabetes	Personal History	50	92%
DUI	Life Style	49	92%
Heart Disease	Family History	49	92%
Alcohol	Life Style	49	88%
High Cholesterol	Personal History	49	88%
Hypertension	Personal History	48	88%
Illegal Drugs	Life Style	49	88%
Cancer	Personal History	50	86%
Heart Disease	Personal History	48	85%
Other Tobacco Products	Life Style	51	84%
Stroke	Personal History	48	83%
Cigarettes	Life Style	51	82%
Treatment for Hypertension	Personal History	47	79%
Aviation	Life Style	49	71%
Treatment for Cholesterol	Personal History	48	69%
Avocations/Hazardous Sports	Life Style	50	66%
Mental & nervous	Personal History	47	64%
Foreign residence	Life Style	47	60%
Cancer	Family History	49	59%
Stroke	Family History	48	56%
Occupation	Life Style	50	52%
Diabetes	Family History	49	51%
Foreign travel	Lifestyle	46	50%
Prescription drugs	Lifestyle	48	44%
Hypertension	Family History	47	38%
Nonaccidental early death	Family History	46	30%
Exercise	Lifestyle	47	2%

SECTION 4 - RANGES OF CRITERIA IN USE

We asked that the following questions be answered for a male ages 35, 45, and 55 to determine what distinctions were made by age. Since we felt that most companies did not change their criteria by sex (with the exception of PSA testing), we asked for answers for males and then asked a general question at the end to determine any other differences that companies may use by sex.

Where appropriate, we also included actual test range results for the year 1994 or 1995 provided by one of the major reference laboratories. No specific conclusions are intended to be drawn from this; however, the Task Force thought that it would be informative for comparative purposes to include such results.

The Task Force did not attempt to correlate laboratory findings with specific company criteria. Each company, however, may want to do this on their own to verify that the preferred qualification percentages assumed are reasonable given their own specific criteria. For example, if a company wants 70% of its applicants to qualify for preferred, this may be difficult to do if the company has as one of its criterion that an applicant cannot exceed a total cholesterol level of 200 mg. because at this level only 32 - 42% of applicants at ages 40 to 60 can meet this criterion.

Total Cholesterol

We asked companies to provide the maximum total cholesterol reading that would qualify for preferred risk consideration. Thirty-seven companies responded; the lowest, highest, and average maximum readings are shown in Table 4.1. A few of the respondents increased the maximum as age increased.

Table 4.1 - Maximum Total Cholesterol for Preferred

mg.	Age 35	Age 45	Age 55
< 200	0	0	0
200 - 219	5	5	5
220 - 239	11	11	8
240 - 299	16	15	18
300 - 350	2	3	3
351+	1	1	1
Low	200 (4)	200 (4)	200 (4)
High	351	351	351
Average	248	249	251

Table 4.2 - Laboratory Results (1994)

Test Ranges	30 - 39	40 - 49	50 - 59
Total Cholesterol (mg.)			
0 - 179	34.51%	22.32%	14.34%
180 - 199	21.70	20.14	17.31
200 - 219	18.37	20.64	21.46
220 - 239	12.38	16.44	19.49
240 - 299	11.78	18.44	24.54
300 - 350	1.05	1.71	2.46
351 +	0.22	0.31	0.40
	100.00%	100.00%	100.00%

Total Cholesterol/HDL Ratio

A similar set of questions was asked about the maximum total cholesterol/HDL ratio. As can be seen from Table 4.3, results vary widely.

Table 4.3 - Maximum Total Cholesterol/HDL Ratio for Preferred

	Age 35 - 45	Age 55
4.0 - 5.0	13	13
5.1 - 7.4	14	14
7.5 - 10.0	5	5
Low	4.0	4.0
High	10.0	10.0
Average	5.8	5.9

Table 4.4 - Laboratory Results (1994)

Test Ranges	30 - 39	40 - 49	50 - 59
Total Cholesterol/HDL Ratio			
0.0 - 3.5	42.97%	33.94%	28.57%
3.6 - 5.0	34.55	36.54	38.72
5.1 - 7.4	18.37	23.82	26.93
7.5 - 9.0	2.57	3.59	3.80
9.1 - 10.0	0.60	0.85	0.82
10.1 +	0.94	1.26	1.15
	100.00%	100.00%	100.00%

Gamma Glutamyl Transpeptidase (GGT)

A similar set of questions was asked about the maximum GGT level. GGT is a liver enzyme. Elevated levels of GGT may indicate liver damage due to alcohol abuse or hepatitis. Responses were as follows:

Table 4.5 - Maximum Level of GGT for Preferred

Level	No. of Respondents
< 66	6
66 - 84	6
85 - 99	5
100 - 129	4
130 +	1
Low	50
High	130
Average	83

Table 4.6 - Laboratory Results (1995)

Test Ranges	30 - 39	40 - 49	50 - 59
Gamma Glutamyl Transpeptidase (GGT)			
0 - 65	94.25%	91.60%	91.44%
66 - 84	2.40	3.22	3.20
85 - 99	0.97	1.40	1.47
100 - 129	1.06	1.58	1.59
130 - 199	0.85	1.36	1.42
200 +	0.48	0.84	0.88
	100.00%	100.00%	100.00%

Prostate-Specific Antigen (PSA)

Similar questions were asked for PSA levels, with the following results:

Table 4.7 - Maximum Level of PSA for Preferred

Level	Age 35 - 45	Age 55
4.0 - 4.9	3	6
5.0 - 9.9	2	5
10.0	2	3
Low	4.0 (3)	4.0 (6)
High	10.0 (2)	10.0 (3)
Average	6.4	6.4

Table 4.8 - Laboratory Results (1995)

Test Ranges	30 - 39	40 - 49	50 - 59	60+
Prostate-Specific Antigen (PSA)				
0.0 - 4.0	100.00%	95.45%	96.72%	95.90%
4.1 - 10.0	0.00	4.55	3.28	3.65
10.1 - 20.0	0.00	0.00	0.00	0.41
20.1 +	0.00	0.00	0.00	0.05
	100.00%	100.00%	100.00%	100.00%

Saliva

The Task Force asked if companies were generally using the “saliva” test in the underwriting process. Only three companies said yes. However, many companies are investigating the feasibility of doing so in the future. In Canada the saliva test has been in use for several years. Basically, the saliva test can be used to test for HIV antibodies, cocaine, and cotinine (nicotine).

Blood Pressure

We asked companies about maximum blood pressure readings for preferred classification:

Table 4.9 - Maximum Blood Pressure Readings

Systolic/Diastolic	Age 35	Age 45	Age 55
< 140/90	13	9	5
140/90	12	13	17
140+/90+	10	10	10
Other (Mixed)	1	5	4
Low	120/80	130/80	130/80
High	169/99	169/99	169/99

Six companies said blood pressure was not used in consideration for preferred classes. However, it is possible that the meaning of this response is that these companies have no separate distinctions in blood pressure requirements between preferred and standard applicants. Nine companies said a reading above the maximum would not preclude an applicant from a preferred classification.

Weight

We asked companies about minimum and maximum weights for males of height 5'6", 5'10", and 6'2".

Table 4.10 - Minimum and Maximum Male Weights for Preferred

	Minimum			Maximum		
	Low	Avg.	High	Low	Avg.	High
5'6"	100	118	140	156	183	224
5'10"	113	132	155	174	204	244
6'2"	127	148	195	194	227	275

Four companies stated that minimum/maximum weight was not used in consideration of preferred classification. However, it is possible that this means there is no separate distinction between preferred and standard applicants, not that weight is not considered at all. Twelve companies stated a reading outside the minimum/maximum limits would not preclude an applicant from a preferred classification.

Criteria Precluding Applicant from Preferred Class

Some companies offered explanations for criteria which would not preclude preferred risk classification even if certain testing thresholds were exceeded. Although the explanations varied by criteria and by company, the following general observations can be made:

- Companies use debits and credits, some of which can be used to "balance" an overall profile.

- Companies assess overall risk, not individual criteria; certain positive risk factors can offset selected negative criteria.

- Not all test criteria are "absolute"; certain negative risk factors are explainable on follow-up.

Differences in Criteria by Sex or Smoking Status

We asked companies if any of the criteria above differed significantly by sex or smoking status. 17 of 49 respondents answered that there were differences.

Because the comments were quite broad in nature, we have chosen not to list each comment individually. However, it can be noted that such differences related mainly to height and weight by sex, as well as a number of comments regarding the smoking/tobacco question. One company also indicated it uses a lower total cholesterol/HDL ratio for its threshold for females.

Debits

We asked companies to indicate how many debits tabulated during the underwriting process could be accumulated and yet still have the applicant be considered for preferred classification. Forty-four companies responded to this question and the range of such debits was quite large as can be seen in Table 4.11 below.

Table 4.11 - Maximum Number of Debits

Debits	No. of Respondents
0 - 24	18
25 - 49	20
50 - 74	4
75+	2
Low	0 (9)
High	100
Average	28

We further asked companies whether the maximum number of debits stated was before or after credits were applied for favorable factors. 23 responded that it was before and 19 responded that it was after credits were applied.

Other Preferred Criteria

We asked companies if they considered any criteria other than those listed above for the preferred classifications. Eighteen respondents offered additional explanatory comments, and the following list summarizes the additional criteria:

- History of felony conviction
- SGPT and SGOT (liver function tests) cannot be greater than 110% of lab's normal limit
- Timed Vital Capacity (TVC), a pulmonary function test, if available, and pulse rate
- Family history and general overall case
- If ratable for any reason, cannot qualify as preferred
- Chest/waist for males; cannot be substandard in any other way
- Lifestyle only, some other medical histories
- Before applying for any preferred criteria, must clearly be a standard risk

CONCLUSION

Preferred underwriting has become a reality. Companies must decide whether to develop this underwriting philosopy. As more companies develop preferred products, there may be increasing pressure on the companies that do not have one to follow. As the assumptions and criteria vary considerably from company to company, considerations of assumptions and criteria to use will be based on the particular objectives and expectations of each individual company. Whether or not a company ultimately decides to introduce a preferred product, the issues contained in this report cannot be ignored. Some of the reasons for not designing a preferred risk product include the cost and complexities of the product (systems and other), the desires of the field force, and the lack of competition due to a niche the company may operate in.

With respect to the type of data contained in this report, the Task Force recommends that this data be updated periodically (possibly every other year). The Task Force will now try to determine the feasibility of conducting a preferred mortality study that will provide meaningful results. The Task Force welcomes any comments or suggestions for such a study.

APPENDIX

Contributing Companies

Aetna Life Insurance and Annuity Company
American Mutual Life Insurance Company
American National Insurance Company
Ameritas Life Insurance Corporation
Century Life of America

CNA Insurance Companies
Columbia Universal Life
Columbian Mutual Life Insurance Company
Columbus Life Insurance Company
Equitable Life Assurance Society

Equitable Life Insurance Company of Iowa
Erie Family Life Insurance Company
Farm Bureau Life Insurance Company
Farm Family Life Insurance Company
Federated Life Insurance Company

First Transamerica Life Insurance Company
Indianapolis Life Insurance Company
Jackson National Life Insurance Company
Jefferson Pilot Life Insurance Company
John Hancock Mutual Life Insurance Company

Kansas City Life Insurance Company
Lafayette Life Insurance Company
Lincoln National Life Insurance Company
Manufacturers Life Insurance
Massachusetts Mutual Life Insurance Company

Midland National Life Insurance Company
Minnesota Mutual Life Insurance Company
Modern Woodmen of America
National Life Insurance Company
Nationwide Life Insurance Company

New York Life Insurance Company
Northwestern National Life Insurance Company
Ohio State Life Insurance Company
Pan American Life Insurance Company
The Penn Mutual Life Insurance Company

Phoenix Home Life Mutual Insurance Company
Primerica Life Insurance Company
Provident Life and Accident Insurance
Provident Mutual Life Insurance Company
Prudential Insurance Company

Safeco Life Insurance Company
Secura Life Insurance Company
Security Mutual Life Insurance Company
Sons of Norway International
State Farm Life Insurance Company

T.M.G. (U.S.) Personal Financial Services
Transamerica Occidental Life Company
United Farm Bureau Life
USAA Life Insurance Company
Utica National Life Insurance Company

Zurich Life Insurance Company of America