

Note: This version of ASOP No. 12 is no longer in effect.
It was superseded in 2006 by ASOP No. 12, Doc. No. 101.



ACTUARIAL STANDARDS BOARD

**Actuarial Standard
of Practice
No. 12**

Concerning Risk Classification

**Developed by the
Committee on Risk Classification for the
Specialty Committee of the
Actuarial Standards Board**

**Adopted by the
Actuarial Standards Board
October 12, 1989**

(Doc. No. 014)

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October 1989

TO: Members of the American Academy of Actuaries and Other Persons Interested in Risk Classification Standards

FROM: Actuarial Standards Board (ASB)

SUBJ: Actuarial Standard of Practice No. 12

Enclosed is the final version of Actuarial Standard of Practice (ASOP) No. 12, *Concerning Risk Classification*. The purpose of this standard is to set guidelines for actuaries in designing, using, and updating risk classification systems.

The standard was developed by the Committee on Risk Classification of the American Academy of Actuaries, at the request of the Specialty Committee of the Actuarial Standards Board. The draft was exposed for comment in April 1989. Twenty-three comments were received.

There have been several changes made to the exposure draft as a result of comments received. Significant changes are noted below:

1. Several commentators were concerned that the standard could limit the use of professional judgment in classifying risks. This was not intended by the drafters. The last sentence in the introductory paragraphs of section 5 was modified to say that the application, as well as the design, of the risk classification system required professional judgment.
2. It was suggested that commonly used phrases in regulations and statutes concerning risk classification be incorporated in the standard. Where these phrases could be inserted without altering the substance of the standard, they were included.
3. Several responders noted that in section 5.5, the standard stated that "When antiselection has occurred or is likely to occur, . . . appropriate measures should be taken or recommended to minimize the impact." Concern was expressed that legal, regulatory, or judicial constraints may hinder the actuary from taking appropriate measures to minimize antiselection. This section was reworded to address this situation.
4. It was noted that in several instances, *risk factor* and *risk characteristic* were used interchangeably. The revised standard consistently uses the phrase, *risk characteristic*. Similarly, it was noted that *fair* and *equitable* were used synonymously; section 2.4 was revised to reflect this.

In addition to the above, several respondents commented on the following items:

1. Relationship between the standard and the *Risk Classification Statement of Principles* of the American Academy of Actuaries. One respondent inquired if the standard supersedes

the *Principles*. It does not. The standard is intended to give guidance to the actuary in risk classification situations, in keeping with the tenets expressed in the *Statement of Principles*.

2. Use of HIV example. Several respondents felt that the HIV example in section 5.5 was too political. Concern was also expressed that the example could be quickly outdated if a cure were discovered for acquired immune deficiency syndrome. The committee was sensitive to these comments. After much discussion, the committee decided to make the example more generic.
3. Use of broad risk classes. It was suggested that the standard should specifically allow the use of broad risk classes where justified. The standard does not proscribe the use of broad risk classes where justified; hence, no modification to the standard was made.

The revised version of the standard was adopted by the ASB on October 12, 1989. It is effective as of January 15, 1990.

Committee on Risk Classification
(including Present and Past members)

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ACTUARIAL STANDARD OF PRACTICE NO. 12

CONCERNING RISK CLASSIFICATION

PREAMBLE

Section 1. Purpose, Scope, and Effective Date

- 1.1 Purpose and Scope—The purpose of this standard of practice is to set forth guidelines for actuaries in designing, using, and updating risk classification systems. The process of risk classification customarily occurs within the scope of financial security systems, including insurance, self-insurance, health service plans, pension plans, and continuing care retirement communities.

Many jurisdictions require a demonstration that the risk classification system used is equitable. Such requirements might relate to expected differences with respect to a specific characteristic, or the requirements might relate to a complete classification system. One purpose of this standard is to guide the actuary in complying with such requirements.

- 1.2 Effective Date—The effective date of this standard of practice is January 15, 1990.

Section 2. Definitions

- 2.1 Antiselection or Adverse Selection—The actions of individuals, acting for themselves or for others, who are motivated directly or indirectly to take financial advantage of the risk classification system. The two terms are often used interchangeably. In this standard, the term *antiselection* is used.
- 2.2 Clear Actuarial Evidence—Appropriate statistical measurements or relevant collateral facts.
- 2.3 Cost—The measured or expected financial effect of providing a financial security system.
- 2.4 Equitable or Fair—Appropriately reflecting differences among the costs of identifiable risk characteristics. The two terms are used interchangeably in this standard.
- 2.5 Experience—The statistics of events connected with assumption of risk. Experience may include estimates where data are incomplete or insufficient.
- 2.6 Pricing—The determination of the amounts charged for a financial security system.

- 2.7 Risk(s)—(1) Uncertainty arising from the possible occurrence of given events; (2) individuals or entities covered by financial security systems.
- 2.8 Risk Classification—The process of grouping risks with similar risk characteristics so that differences in costs may be recognized.

Section 3. Background and Historical Issues

Risk classification has been a fundamental part of actuarial practice since the beginning of the profession. The need for formal standards has increased as risk classification has become more complex and more subject to public scrutiny. In 1980, the Committee on Risk Classification of the American Academy of Actuaries (AAA) released the *Risk Classification Statement of Principles* that explains the need for the process and discusses considerations in the design of a risk classification system. This standard of practice gives guidance to the actuary in the application of those *Principles*.

Section 4. Current Practices and Alternatives

Over the years, a multitude of risk classification systems have been designed, have been put into use, and have been modified in an evolutionary manner as a result of experience. In a voluntary market system, risk classification is vital to ensure the equity and financial soundness of the system. Economic incentives such as the avoidance of antiselection often have led to innovations and changes in risk classification systems. Risk classification has become more complex and refined, thereby promoting more equitable risk classification, and encouraging widespread availability of coverage. Legislatures, regulators, and courts have placed numerous constraints on risk classification, causing, in some cases, inconsistencies between costs and pricing.

Risk classification is an integral part of the practice of most actuaries. Typical areas in which the process is used include the following:

1. pricing and design of financial security systems,
2. valuation of liabilities,
3. distribution of surplus,
4. compliance with laws, and
5. expert testimony.

STANDARD OF PRACTICE

Section 5. Analysis of Issues and Recommended Practices

Consistent with the *Risk Classification Statement of Principles*, there are three primary purposes of risk classification:

1. to be fair,
2. to permit economic incentives to operate and thereby encourage widespread availability of coverage, and
3. to protect the soundness of the financial security system.

In order to achieve these purposes, certain basic principles should be present in any sound risk classification system:

1. The system should reflect cost and experience differences on the basis of relevant risk characteristics.
2. The system should be applied objectively and consistently.
3. The system should be practical, cost-effective, and responsive to change.
4. The system should minimize antiselection.

Both the design and the use of risk classification systems require the actuary to exercise professional judgment as well as to use statistical tools.

- 5.1 Methods to Demonstrate Cost Differences—A risk classification system is equitable if material differences in costs for risk characteristics are appropriately reflected in the rate. Classification subsidies result when the price paid by an individual or class of individuals fails to reflect differences in costs among the risk classes.

A relationship between a risk characteristic and cost is demonstrated if it can be shown that experience is different when the characteristic is present. In demonstrating the relationship, the actuary can rely on actual or reasonably anticipated experience; the actuary is not constrained to using only the experience of the actuary's client or company. Relevant information from any reliable source, including statistical or other mathematical analysis of available data, may be used. Information gained from clinical experience, or from expert opinion regarding the effects of change on future experience (e.g., medical or engineering) may be used.

In the absence of actual experience, an actuary may rely on clear actuarial evidence that differences in costs are related to a particular risk characteristic. In demonstrating this,

the actuary may rely on clinical experience or expert opinion. For example, an environmental factor that has been demonstrated by clinical experience to be related to additional deaths may be used until further actual experience becomes available.

Sometimes it is appropriate for the actuary to make inferences without specific demonstration. For example, it would not be necessary to demonstrate that persons with seriously impaired, uncorrected vision would represent a high risk as operators of motor vehicles.

- 5.2 Causality—Risk classification systems provide a framework of information which can be used to understand and project future costs. If a cause-and-effect relationship can be established, this tends to boost confidence that such information is useful in projecting future costs, and may produce some stability of results.

However, in financial security systems, it is often impossible or impractical to prove statistically any postulated cause-and-effect relationship. Causality cannot, therefore, be made a requirement for risk classification systems.

Often, the term *causality* is not used in a rigorous sense of cause and effect, but in a general sense, implying the existence of a plausible relationship between the characteristics of a class and the hazard for which financial security is provided. For example, living in a river valley would not by itself cause a flood insurance claim, but it does bear a reasonable relationship to the hazard insured against, and, thus, would be a reasonable basis for classification.

Risk classification characteristics should be neither obscure nor irrelevant to the protection provided, but they need not exhibit a cause-and-effect relationship.

- 5.3 Objectivity—A risk classification system should use objective characteristics to differentiate risks. A characteristic is considered objective if it is based on specifically determinable facts. An objective characteristic should not be easily manipulated and should be readily verifiable. For example, a classification of “blindness” is not objective, whereas a classification of “vision corrected to no better than 20/100” is objective.
- 5.4 Practicality and Cost Effectiveness—A balance is required between precision and the expense of administering a risk classification system. Economic incentives and voluntary market forces should be considered along with the operational considerations in determining whether a risk classification plan is practical and cost-effective.
- 5.5 Effect of Antiselection—Antiselection may result from the design of the classification system, or may be the result of externally mandated constraints on risk classification. Classes that are overly broad may produce unexpected changes in the distribution of risk characteristics. For example, if an insurer chooses not to screen for a specific risk characteristic, or a jurisdiction precludes screening for that characteristic, this may result in individuals with the characteristic applying for coverage in greater numbers and/or amounts, leading to increased overall costs.

When antiselection has occurred or is likely to occur, its actual or potential effect should be disclosed to the client, and appropriate measures taken or recommended to minimize the impact.

- 5.6 Statute/Regulation/Adjudication—The actuary may be constrained by a statute, a regulation, or a court decision from applying certain elements of a risk classification system. The actuary should comply with such constraints, disclose their impact to the client, and take or recommend appropriate action to minimize their impact.
- 5.7 Industry Practices—The actuary should be aware of usual and customary risk classification practices for the type of financial security system under consideration. Effects of departing from those practices should be disclosed to the client.
- 5.8 Right to Reclassify—Some insurance contracts limit the right to reclassify. Some changes in classification require regulatory approval. All such restrictions should be considered.
- 5.9 Operating Environment—Changes in the operating environment, such as new products, changing customs, disease outbreaks, and medical advances should be examined for effects on classification systems.
- 5.10 Data—Relevant data should be verifiable, and examined for reliability. Standard statistical tests should be applied when appropriate and necessary.
- 5.11 Applicability of Risk Classes—Different classification systems may be needed to accomplish different objectives, even of the same financial security system. For example, a gender-neutral classification system may be required for benefit determination in a pension plan. Because of differing life expectancies, however, a gender-based system may be appropriate in determining the liabilities of that plan.

Section 6. Communications and Disclosures

- 6.1 Existing Standards—Interpretative Opinion 3 of the *AAA Guides and Interpretative Opinions as to Professional Conduct* applies to all written communications by actuaries on actuarial subjects and, unless clearly inapplicable, to oral communication as well. Section (a)(2) of this Opinion states,

“The form and content of any actuarial communication should meet the needs of the particular circumstances, taking into account the knowledge and understanding of the users and the actuary’s relationship to the users.”

An actuarial communication concerning risk classification may in some circumstances be read and used by sponsors and participants in financial security systems, government personnel, or other members of the public. This section supplements Opinion 3 with respect to such actuarial communications.

6.2 Deviation from Standard—An actuary who uses a procedure which differs from this standard should include, in the actuarial communication disclosing the result of the procedure, an appropriate and explicit statement with respect to the nature, rationale, and effect of such use.