

**DATE:**  
May 2022

---



## Wisdom and Experience Should Inform the Decision Making Process

**THE CHALLENGE:** The Actuarial Profession has an obligation to develop operational guidelines that can help decision-makers be better informed, less error-prone and more effective at developing sustainable solutions to the challenges they face.

The following guidelines are applicable to all health insurance and other financial security programs, both public and private, including political proposals and reform legislation as well as social and private insurance. (1)



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)

1. Design and manage all financial security programs to ensure long-term sustainability, fairness among generations and otherwise, and transparency.
2. Develop programs in accordance with applicable professional principles and standards of practice.
3. Using pertinent actuarial, insurance, and statistical principles, analyze all relevant historic cost and benefit data.
4. Project future anticipated experience, based on discerned patterns and trends in past experience.
5. Identify current information that is not reflected in the past experience but is relevant to future experience and adjust the projection accordingly.
6. Analyze a reasonable range of anticipated experience under the proposed program, both in the aggregate and within suitable subgroups.

**THE OPPORTUNITY:** SHARE THE REASONING BEHIND AND THE RELEVANCE OF THESE GUIDELINES WITH DECISION-MAKERS.

**1. Design and manage all financial security programs to ensure long-term sustainability, fairness among generations and otherwise, and transparency.**

**DATE:**  
**May 2022**

---



These guidelines are intended to apply to all health insurance and other financial security programs, both public and private, including political proposals and reform legislation as well as social and private insurance. They are guidelines rather than precepts to enable supported exceptions and to facilitate the evolution of the guidelines themselves. The Actuarial Standards of Practice, for example, each contain a deviation clause permitting the actuary to deviate from the Actuarial Standards of Practice, provided that the actuary both announces the deviation and is prepared to support it.

In order to ensure the long-term sustainability of a financial security program, it must be both designed and managed in accordance with that goal. A private pension plan that is designed to support high-interest assumptions by means of risky investments is at a high risk of failure. A public health financing program that is managed by assuming inadequate provider reimbursement in reliance on periodic legislative adjustments is not assured of ongoing solvency.

Fairness among generations may be built into the original design of a public pension plan, but then undermined by amendments that augment future benefits without adequate consideration of future funding. Such fairness may also require a holistic analysis of matters such as government debt, for example when program solvency is “secured” by payments that the government cannot continue without debasing the currency.

Fairness among other demographic or economic groups also requires ongoing design and management attention, including even supported changes in societal definitions of “fairness”. This may require objective analysis of changing public mores concerning unfairness as, for example, is it fair to vary insurance premiums by race if warranted by experiential evidence?

Finally, transparency is essential to secure ongoing public support for a public program to ensure, for example, that trust fund assets are not loaned to a legislative body lacking the ultimate will or means to repay the loan.



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)

**DATE:**  
**May 2022**

---



## **2. Develop programs in accordance with applicable professional principles and standards of practice.**

Applicable professions include actuarial, statistical, accounting, and sometimes others such as legal, medical, or engineering.

Most applicable for the purpose at hand would be a statement of actuarial principles that have been promulgated and endorsed by a major actuarial organization. The UK Institute and Faculty of Actuaries have produced a Code with six principles (integrity, competence and care, impartiality, compliance, speaking up, and communication), but there appears to be no counterpart US document. This is not for lack of effort, however, for the search began at least a generation ago, and has not yet been rewarded. The closest was probably the 2008 Principles Underlying Actuarial Science paper developed “over an extended period of time” by a joint committee of the Consulting Actuaries Society and the Society of Actuaries, which set forth 21 actuarial principles including among others credibility, preference or indifference, risk aversion, actuarial present value, risk classification, and actuarial soundness. Unsurprisingly, the boards of both societies granted no more than permission to publish the paper under the names of the committee members. It is reasonable to say that actuarial principles exist and that they are to be reliably found only embedded and diffused in actuarial literature. Standards of practice are principle-based standards applying to specific applications of the profession.

Principles and standards may be either promulgated by the profession or inferred from its literature. The actuarial profession, for example, uses the former path for standards (Actuarial Standards of Practice) and the latter for principles.

## **3. Using pertinent actuarial, statistical, and insurance principles, analyze all relevant and reliable historic cost and benefit data.**



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)

**DATE:**  
**May 2022**

---



Statistical principles, like actuarial principles, can be found mainly in the professional literature. One plausible list ([www.changingminds.org](http://www.changingminds.org)) has nine statistical principles including among others frequency distributions, confidence, and variance. Insurance is not a profession, but “insurance principles” are embedded in insurance literature. One plausible list ([www.mcminnlaw.com](http://www.mcminnlaw.com)) has seven insurance principles including utmost good faith, insurable interest, indemnity, contribution, subrogation, proximate cause, and loss minimization.

The analysis called for here uses pertinent principles and appropriate methodologies to validate and organize data for the purpose of finding patterns and trends therein. Data should be relevant but need not be directly that of the program at hand; for example, prior auto insurance experience may be sufficiently relevant for the purpose to be used to analyze a proposed no-fault auto insurance program. Such data should also be reliable, which refers not only to its source but also to its statistical credibility for the purpose. Once the patterns (e.g. seasonal) and trends (e.g. inflation) have been identified and confirmed the analysis is ready for the next step (see “Guideline 4.” below).

#### **4. Project future anticipated experience, based on discerned patterns and trends in past experience.**

This guideline uses the validated and organized data from guideline “Guideline 3” to apply pertinent principles and appropriate methodologies to “fit the best curve” (a series of “best estimate” points) for the purpose of projecting future experience. Experience may have multiple elements (.e., the number of deaths and the financial consequences of those deaths). Methodologies may generally be deemed appropriate if they conform to applicable standards of practice.

#### **5. Identify current information that is not reflected in the past experience but is relevant to future experience and adjust the projection accordingly.**



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)

**DATE:**  
**May 2022**

---



While Guideline 4 may be primarily a matter of statistics, this is where the actuary becomes essential. Also called “bending the curve,” this guideline permits the projection to fit reasonably supported current information beyond that which is captured in past experience, but which has potential impact on future experience, to be reflected in the projection. Consider, for example, workers’ compensation legislation that changes benefits effective the day after the valuation date of Guideline 4. Supported subjective information may also be warranted for this step; consider for example a Supreme Court decision that appears likely to make same-sex marriage partners eligible for Social Security benefits. The degree of support needed does not have to be “beyond all reasonable doubt,” but should be at least “the preponderance of the evidence.”

**6. Analyze a reasonable range of anticipated experience under the proposed program, both in the aggregate and within suitable subgroups.**

This guideline generally starts with a projected curve derived from a suitable number of best estimate points and then develops reasonable ranges of anticipated experience around those best estimates. These ranges may be developed directly from the best estimates or may be developed otherwise, by analyzing variability within the assumptions. The Social Security and Medicare actuaries, for example, project de facto best estimates named “Intermediate” with alternative-assumption projections named “Low-cost” and “High-cost.”

If suitable subgroups of interest can be identified with reliable data, the process may be applied as well to project experience applicable to those subgroups.



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)

**DATE:**  
**May 2022**

---



#### FOOTNOTE

1. Information about the origins of these guidelines can be found in the 2009 paper Consistently Framing the Design and Analysis of Health Care Proposals, written by FSA's Mark Litow and Bob Shapiro.



[WWW.CONCERNEDACTUARIES.ORG](http://WWW.CONCERNEDACTUARIES.ORG)



Fred Kilbourne, FSA, FCAS



[INFO@CONCERNEDACTUARIES.ORG](mailto:INFO@CONCERNEDACTUARIES.ORG)