The call may come from someone other than an attorney, such as a current or erstwhile client, a bureaucrat or dentist, or another actuary. (I once received a call from a judge asking us to determine the reasonableness of bills submitted by an actuarial expert. I don’t know who determined the reasonableness of our fee for that assignment.) The call may involve something other than a lawsuit, such as a legislative or administrative hearing, a stint before (or as) an arbitrator, or assistance to someone facing a press conference that is likely to include some actuarial questions. The call may even come from a reporter, but that’s another story.

Is it expert testimony when an actuary uses, or is used by, the media to communicate an actuarial fact or opinion to the public? The Actuarial Standards Board thought so when promulgating ASOP 17 on Expert Testimony, although one prominent member of the Board thought otherwise. (You could look it up.) I personally consider my first expert testimony to have been my 1964 letter to the editor (is anyone more expert than a recent ASA?) of the Los Angeles Times, wherein I foresaw a “trillion-dollar deficit” for Social Security (changed to “huge deficit” in the published version). More recently, I think I managed to shock 60 Minutes with my power to the show’s request to have an actuary give some perspective to “a one-in-1,500 chance”—the stated risk of a launch disaster for a contemplated story on space travel. For, as any actuary with an almanac can compute, based on the historical data there’s a roughly a one-in-1,500 chance that the president of the United States will be assassinated over this month!

If you don’t want to wait around for the call, how do you go about soliciting one? Marketing is generally unproductive, except perhaps for cases involving marriage dissolution or individual pensions (with which I have very limited personal familiarity). I have, however, observed some things you can do to improve the odds that you’ll be called to be an actuarial expert:

1. Specialize, but don’t overdo it.
2. Do the best you can at everything you do.
3. Pick up letters to append to your name, especially those conferred by expensive universities.
4. Use English well, except when writing lots of complex and highly technical books and papers.
5. Be old, but don’t overdo it.

Thinking It Over
A few actuaries may be quick and thorough enough to decide how to respond to the call during its 19-minute duration, outlined above. They may not know for sure which side, if either, is right but they quickly know what they should do about the proposed expert witness assignment. Perhaps it should be declined, if the case fails the smell test or if an actuary isn’t the
right expert. Perhaps it should be referred to another actuary, if that other actuary is clearly better qualified for the assignment. (This is always the best thing to do for the prospective client and the actuarial profession and, in the long run, for super actuaries themselves). Perhaps it should be accepted, subject to a later change of heart if required as the case unfolds.

The rest of us generally wait (smell test excluded) until we've had the opportunity to look over the preliminary package. The same criteria apply—we're just a bit slower at applying them. Luckily, the rules of the game help by deferring the decision by enough to be named as a testifying expert.

"Later on," of course, is after your analysis has led you to draw some preliminary conclusions, and the attorney to understand what you understood. As a practical matter, the process evolves, from thinking it over to consultant to named expert to actual testimony, with significant changes possible at any point along the journey.

Time does march on, and a decision must be made whether to accept the assignment, knowing it's likely to lead to your giving expert testimony for the client. By this time you probably know too much about one side's theory and strategy to permit your working for the other side (although, unfortunately, this doesn't stop every actuary in every case, as it should). This gives a slight advantage to the plaintiff, who usually is chronologically ahead of the defense in pursuing the case. I have three times been called by the other side after having ac-

Identifying the Issue

Cases involving actuarial testimony generally have a central actuarial issue to be resolved. The first step in the resolution is to identify the issue, which may either take a good deal of time and work or may be put forth at the outset (sometimes erroneously).

For example, over the three decades I've worked part time on expert witness cases, I've been called upon to answer actuarial issue questions such as the following:

- Whether an auditor should have foreseen that a deposit insurer with minimal reserves was a house of cards waiting to collapse;
- Whether a state auditor general should find that alleged losses arising from writing medical practice insurance were real;
- Which proposed changes a state attorney general should attempt to impose on a rating organization, and which should be dropped;
- What funding changes a state legislature should make in its disability income and unemployment compensation programs;
- What will happen if a proposed no-fault auto bill mandating a 40-percent premium reduction is passed (answer: Underlying costs will go up 40 percent);
- How much money an insurance company lost, in the form of profits foregone, as a result of alleged slander by a network (answer: a lot);
- Whether a range of actuarial estimates could and should have been seen contemporaneously to have been too low or too high at both ends;
- Whether an actuary or auditor was wrong, in the sense of having been negligent or in violation of professional standards, in doing his work;
- Whether an insurance commissioner was wrong in taking over a solvent insurance company (he was);
- How much an insurance company, or one of its lines of business, was worth (in terms of an adjusted balance sheet and future earnings);
- Whether an insurer should collect damages from drug manufacturers convicted of price-fixing (if so, the money should be returned to policyholders);
- Whether the premiums charged to a group of doctors, a common carrier, a manufacturer, or a commercial lease insurer were appropriate;
- How much an insurance company or manufacturer might be expected to pay in the future for asbestos or environmental claims already incurred;
- Whether a refund was due to an employee (no) or a hospital (yes) as a result of favorable claims experience during the period of insurance coverage;
- Whether the actuarial deficit of a state workers' compensation insurance fund was severe (yes), but curable (yes, with considerable difficulty);
- Whether the drivers of a state could be expected, via the insurance guaranty fund, to subsidize state doctors when the malpractice fund went under (it didn't);
- Whether medical malpractice tort reform legislation that was proposed or enacted was good for the majority of people in the state (yes);
- Whether proposed limitations on risk classifications or territorial rating would cause subsidization of bad risks and, thus, more claims;
- Whether the actuarial deficit of U.S. social insurance programs exceeds the alleged national debt by a factor of three (no, it's five);
- Whether a high public official accused of sexual harassment was covered by his or her umbrella policy (yes—and it was the same policy and the same insurer as mine, but I've learned that I can't unilaterally hire the same attorney should I ever face the same charges).

Once the actuarial issue has been identified and the corresponding question asked, the stage is set for doing the work and getting prepared to defend the answer.
accepted an expert witness assignment, and each of those times the second call came from the defense. But is there not a right and wrong side to each case? Yes, to a greater or lesser extent. But many cases warrant both prosecution and defense, leaving the judge or jury to weigh the evidence and opinions of the experts.

Doing the Work

Once the actuarial issue has been identified and the corresponding question asked, the stage is set for doing the work and getting prepared to defend the answer. Actuarial analysis has the power to transform good data into reliable estimates of future costs, but its misuse can turn a silk purse (good data) into a sow's ear (bad guess). Actuarial science advances daily in its ability to discern trends and otherwise to learn what yesterday can tell us about tomorrow. It's true that actuarial judgment, informed and supported, can be validly applied to "bend the curve" so as to improve the estimate yielded by the unbent projection of discerned trends. It's not true that actuarial "judgment" that is unsupported or even contradicted by the facts can validly be considered actuarial science, or even art with any redeeming social value. It's true that ranges around a best estimate can validly be used to convey degrees of uncertainty. It's not true that a range unrelated to a supported best estimate, and used to accommodate a client's wish to select his or her own best estimate, is a silk purse or anything else of value. The invocation of "actuarial judgment" as a mantra to keep locked the black box of actuarial analysis may win a battle here and there, but it's a powerful weapon against us in the hands of those who claim that actuarial reports in general are mere sow's ears in the futures market.
The conclusions that form the heart of the expert actuarial opinion often leap from the completed analysis like a student with the right answer clamoring to be heard. Other times they must be coaxed, or even dragged, out of the actuarial black box. Once they're in hand, by any means, they must be communicated to an eager audience.

Telling the Story

In order to be useful, any expert opinion must be not only firmly held, it must also be shared. The means of sharing may be verbal (oral or written) or numerical. (Graphs or body language may also be involved, but mental telepathy is not formally recognized by the U.S. court system.) The form may be an affidavit or letter to an editor, a videotaped deposition or press conference, a formal written report or direct testimony in open court. In all cases, the substance must be the same: the truth, the whole truth, and nothing but the truth.

Truth be told, that's not only a mouthful, that's also a whole lot of truth. The essence and point of your testimony is that your opinion is truly yours, that you believe it in preference to competing opinions on the same subject, and that you can support your opinion with the facts. The whole truth may include your belief that a competing opinion has some merit, in which case you should be prepared to explain and support why you've concluded that your stated opinion is the better of the two.

One frustrating aspect of expert testimony work is that cases tend to settle, often on the courthouse steps. Even very large cases settle more often than they go to trial. One case on which I worked ended with no acknowledgment of error other than implicitly in the size of the settlement amount, which was in eleven figures, including pennies. Written reports (the only direct testimony allowed, in some jurisdictions) and depositions often spur one side or the other (or both) to settlement concessions, sometimes alleviating some of the frustration.

But the most challenging (usually) and rewarding (sometimes) part of expert witness work is stepping up to the plate to face the curveballs, spitballs, and beanballs of cross-examination. This is the process by which the opposing attorney, supported by the opposing expert, uses a deposition or open court to expose you as a worthless poseur, a failure at everything except billing hundreds of hours at an exorbitant rate for a pointless task, a confused waif who wouldn't recognize the truth if it jumped out and grabbed his throat, a base fellow who may still be beating his wife. My experiences with this fascinating process have included the following lighter moments:

- The insurance commissioner/judge/cross-examiner who told me, midway through my all-day testimony, that I could order a sandwich and speak with my mouth full (my mother notwithstanding).
- The deposing attorney who uncovered the fact that I had worked for two years in a laundry, to the delight of my client's attorney, who said, "The jury will have no actuaries, but may have a laundry worker or two!".
- The judge who got to say, during a solar eclipse, "The actuary speaks, the world goes dark," and the judge who left the courtroom regularly to put coins in a parking meter.
- The deposition witness (me) who asked, after observing the deposing attorney enter a statement on the record, "Are attorneys not sworn to tell the truth because there's no need—or no point?"

Closing the Book

Finally, your expert witness assignment ends (usually abruptly). All that remains, besides licking any wounds, is to clear out your files, retaining material that may be useful for future work or articles about actuarial testimony, and returning material that the court has ordered to be returned (which sometimes obviates any retention). You may have to set up a subroutine in your brain reminding you to limit any conversation about the case. (Should your client have been either of the organizations mentioned in the first paragraph of this article, for example, you may wish to heed this subroutine scrupulously.) But you've learned things in the course of the assignment that will make you a better actuary and a more effective witness when the next call comes. And you'll sit by your phone, impatiently waiting for that call.