

Safety Heroes and the Actuary's Chamber of Secrets

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Introduction

Have you ever sat in a meeting and your eyes glaze over as the actuary begins presenting the financial reports, and it sounds like she is speaking Parseltongue? Kind of makes you want to be Harry Potter so that you can understand them, doesn't it? Understanding the financials, actuary-speak, and how the money works is an essential skill for today's successful safety hero (Environmental, Health, and/or Safety professional). Today more than ever a safety hero must be able to read and understand the many reports presented by third-party claims administrators, auditors, and actuaries. It is important to understand not only the risk control side of being a safety hero, but also the risk financing side.

Risk control activities can reduce the frequency and severity of loss incidents, but can not eliminate them completely. Therefore, risk control activities must be supplemented with risk financing activities to develop a complete risk management package for any organization. Many important decisions, including the evaluation of the effectiveness of loss control measures and potential funding for future loss control, are based on risk financing analyses performed by actuaries. Therefore it is especially important for safety heroes to understand, communicate with, and even enlist the help of actuaries to assist with the preservation and best use of limited resources. While this paper cannot be a comprehensive tutorial, it will provide the average safety hero with the basics to get them started.

Terminology

Whenever learning a new language, and actuarial-speak is a language, you need to learn a few key terms to get started. Becoming familiar with these terms, their acronyms, and their meanings will expedite your ability to understand, and to take advantage of the information that actuaries provide.

Accident Year – Year during which the accidents that generate a group of claims occurs, regardless of when the claims are reported, payments are made, or reserves are established.

Actuary – Defined by The Random House College Dictionary as “1. Insurance, a person who computes premium rates, dividends, risks, etc. according to probabilities based on statistical records.”

Allocated Loss Adjustment Expenses (ALAE) – Expense incurred in settling claims that can be directly attributed to specific individual claims (e.g., legal fees, investigative fees, court charges, etc.)

Benefit Level Factor – Factor used to adjust historical losses to the current level of workers' compensation benefits.

Case Reserve – The amount left to be paid on a claim, as estimated by the claims administrator.

Claim Count Development Factor – A factor that is applied to the number of claims reported in a particular accident period in order to estimate the number of claims that will ultimately be reported.

Claim Frequency – Number of claims per unit of exposure, such as payroll, vehicles, average daily attendance or full-time equivalents.

Confidence Level - An estimated probability that a given level of funding will be adequate to pay actual claims costs. For example, the 85% confidence level refers to an estimate for which there is an 85% chance that the amount will be sufficient to pay loss costs.

Discount Factor – A factor to adjust estimated loss costs to reflect anticipated investment income from assets held prior to actual claim payout.

Expected Losses – The best estimate of the full ultimate value of loss costs.

Full-Time Equivalent (FTE) – The US Consensus Bureau defines FTE as “a computed statistic representing the number of full-time employees that could have been employed if the reported number of hours worked by part-time employees had been worked by full-time employees. This statistic is calculated by dividing the "part-time hours paid" by the standard number of hours for full-time employees in the particular government and then adding the resulting quotient to the number of full-time employees.”

Incurred but not Reported (IBNR) Losses – Losses for which the accident has occurred but the claim has not yet been reported. This is the ultimate value of losses, less any amount that has been

set up as reported losses by the claims adjuster. It includes both amounts for claims incurred but not yet received by the administrator and loss development on already reported claims.

Indemnity – This is the money paid to the person or organization that suffered the loss.

Loss Development Factor – A factor applied to losses for a particular accident period to reflect the fact that reported and paid losses do not reflect final values until all claims are settled.

Loss Rate – Ultimate losses per unit of exposure.

Loss Reserving – This is the term used to describe the actuarial process of estimating the amount of an organization's liabilities for loss and loss adjustment expenses. Loss reserving is a major challenge to the casualty actuary because the estimation process involves not only complex technical tasks but considerable judgment as well. No one formula will provide the correct answer.

Non-Claims Related Expenses – Program expenses not directly associated with claims settlement and administration, such as excess insurance, safety program expenses, and general overhead. These exclude expenses associated with loss settlements (Indemnity/Medical, BI/PD), legal expenses associated with individual claims (ALAE), and claims administration (ULAE).

Outstanding Losses – Losses that have been incurred but not paid. This is the ultimate value of losses less any amount that has been paid.

Paid Losses – Losses actually paid on all reported claims.

Program Losses – Losses, including ALAE, limited to the SIR for each occurrence.

Pure Premium – This term has two definitions: 1) That part of the premium which is sufficient to pay losses and loss adjustment expenses only, but not other expenses; 2) The premium developed by dividing losses by exposure, disregarding any loading for commission, taxes and expenses.

Reported Losses – The total expected value of losses as estimated by the claims administrator. This is the sum of paid losses and case reserves.

Reserves – This is a sum of money that is set aside from surplus into the liability account to meet some future obligation.

- **Unfunded reserves** – unfunded reserves indicate that no specific moneys have been set aside for future use. Claims are paid out of other assets or general funds.
- **Funded reserves** – the moneys are specifically set aside to pay future claims and may not be used for any other purpose.

Retention – Think of retention as the deductible on your car insurance. Retention is that amount that will be financed with resources other than insurance.

Risk Control – The term is defined by the Insurance Institute of America as “techniques designed to minimize the frequency or severity of accidental losses or to make losses more predictable.”

Risk Financing – According to the Insurance Institute of American, risk financing “encompasses all the ways of generating funds to pay for losses...”

Time Value of Money – This is the ability of funds to earn interest when invested over time.

Safety Hero – Professional who devotes their career to protecting people, property, and the environment.

Self-Insured Retention (SIR) – The level at which an excess insurance policy is triggered to begin payments on a claim. Financially, this is similar to an insurance deductible.

Severity – Average claim cost.

Ultimate Losses – The value of claim costs at the time when all claims have been settled. This amount must be estimated until all claims are actually settled.

Unallocated Loss Adjustment Expenses (ULAE) – Claim settlement expenses that cannot be directly attributed to individual claims (e.g., claims adjusters' salaries, taxes, etc.)

Why learn about actuarial studies? There are several reasons to learn about what actuaries do, and what their reports mean. Many of the stakeholders in an organization, both those in risk management and those who are non-risk management, are not comfortable making monetary decisions based on guess work and unwarranted assumptions. Divination is not accepted. These decision-makers are comforted by the fact that actuaries follow well-established methods that reflect a multitude of variables, including inflation, the legal environment, laws & regulations, claims handling procedures, historical trends, and of course safety & loss control. Their methods are solidly based in statistics and mathematics. As a result actuarial opinions are widely utilized in making financial decisions related to insurance.

In addition auditors will more readily accept a loss analysis report developed by an accredited actuary than one prepared by a safety ‘hero’ employed by the organization. Some auditing standards even require an actuarial signature for various figures on financial statements. When the numbers of the actuary and the auditors agree, management moves forward with greater confidence in the decisions they make.

Another reason for learning what actuaries report is that their reports can substantiate your theory, and they do all the work. What is better than that? Learning to use actuarial reports can eliminate the need for you to create the loss analysis. An added benefit is that their reports are adjusted for inflation, so their loss numbers provide a more accurate period-to-period comparison than the straight number count that safety heroes produce. And the actuary’s report can provide independent confirmation that the loss prevention or loss control program you developed to save the organization’s human and physical capital was effective.

Actuaries analyze losses in much the same way that safety heroes do, except that their focus typically related to the cost of the claims filed rather the number of OSHA-recordable injuries or the number of recordable loss days. Like safety heroes, actuaries identify where the losses are occurring by examining the frequency rate and the severity of the losses. But they also evaluate where the dollars are being spent – indemnity, medical only, and other expenses, such as, legal costs. Actuarial reports also take into account hazard exposure factors when determining where the focus of the loss control program should be and when making departmental comparisons. As an example, the street officers of a City's police department have a higher hazard exposure factor than the City Clerk, and a millwright has a higher hazard exposure factor than a bank loan officer.

Actuaries can also use other available actuarial reports to estimate the financial impact of a loss control program on the organization's bottom line. They conduct a cost-benefit analysis based on known successful similar programs conducted elsewhere in the industry. We safety heroes can also project a cost benefit of a given program, but let's return to the first point made. The stakeholders prefer to hear these projections from the actuary, and the actuary's report will also take into consideration the effect of inflation on the numbers. They apply a Benefit Level Factor to adjust historical losses to the current level of workers' compensation benefits. After all, providing a projection without the needed adjustment for inflation could provide an equally inflated projection. It could appear that the severity of losses is going up; when it really is the effect that inflation is having on medical care costs.

In addition, actuary reports can take into consideration legislative changes, such as the changes to California's workers' compensation regulations in 2004 and 2005. On the surface, almost all organizations saw an immediate benefit in the total claim cost because of the changes in the regulations; however, without the actuary's analysis it would be too easy to claim all program improvements were based on the change in regulations, when in fact, a portion of the reduction was due to effective risk control and risk prevention programs.

Where do actuary reports come from? An actuarial report may be initiated in a variety of ways. An organization's risk manager may request the report because she wants more information on which to base her program decisions. In some states, self-insurance regulations require that an actuarial report be conducted on a routine basis. This is necessary to ensure that an entity has maintained and will continue to maintain the funds necessary to cover the cost of their anticipated claims. The report may also be initiated as a proactive measure to identify the cost-benefit of a variety of proposed loss control or loss prevention plans. Alternatively the report may be undertaken from a reactive stand point to develop the return on investment of the current program, sort of checking to see if it worked, and did it work as well as projected.

When reviewing an actuary's report, you will want to find out what "units of exposure" or standardizing factors were used. Are the rates based on full-time equivalent employee, dollars of payroll, or some other factor, such as type of vehicle or miles driven? When making comparisons it is crucial to know if the comparison entity is of similar size and type of operations. This could be critical in determining if the entity is above, at, or below average in its experience. As an example, when comparing the number of vehicle claims based on miles driven, it would be comparing apples to oranges to compare a moderate sized resort city with increased street congestion created by tourists to the maintenance vehicles of a large county with a relatively low population and uncongested highways. You'll also want to confirm what exposure factors were used, as well as inflation and investment rates. The answers to these questions will help you to

better understand the report to determine how you can use it to your program's advantage. Asking the right questions will also help ensure that the recommendations being made are accurate and not based on erroneous information.

So, the next time you get to sit in on the delivery of an actuarial report, perk up and listen. Be prepared to ask questions about the report that will help you understand it so that you can use the information to your advantage.

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