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GROUP AND HEALTH STUDY NOTE

GROUP LONG TERM DISABILITY—IMPROVING ACTUARIAL ANALYSIS THROUGH UNDERSTANDING THE BENEFITS PROCESS

by

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Group Long Term Disability – Improving Actuarial Analysis through Understanding the Benefits Process

Introduction

Claims adjudication plays a critical role in the Long Term Disability product. Long Term Disability claims are long tail liabilities which progress through a number of key decision points through their life cycle. These decision points include, but are not limited to, determination of eligibility for coverage, acceptance of liability, determination of appropriate benefit payment amounts, and application of policy provisions throughout the life of the claims.

The disability actuary must have a solid understanding of the adjudication process and the information that can be accessed through the claim processing system. This note will discuss areas of the process that are particularly helpful to understand. Additionally, the note will discuss for certain critical functions what analyses can be performed, and how these analyses affect the actuary's work and recommendations

Understanding of the Adjudication Process

It is useful to discuss understanding the adjudication process and its impacts on analysis in three segments: Process, Contract, and Financial Impact Points

Process

It is useful for the Long Term Disability actuary to have a solid understanding of the workflow and process followed in adjudicating claims, including what data is utilized and what is recorded. A wealth of data is collected during the adjudication process that can be of value to the actuary. By understanding this process and taking steps to access available data, the actuary is in a much better position to assist in plan design, pricing, and overall block management. Ideally, the actuary has had some involvement with defining the data captured from the process, and continues to shape the data captured on an ongoing basis

The claim process and related data collection can generally be described as follows:

PROCESS	**RELATED DATA**
Initial Recording of Claim: The adjustor receives the initial claim information, confirms eligibility, and determines nature and amount of coverage	Demographics (age, sex, birthdate) Group Number/ Employer Plan design Covered salary Benefit amount before offset Date of claim submission
Liability Acceptance or Denial The adjustor reviews relevant medical records, job duties and policy provisions to determine whether the disability meets the definition to qualify for benefits	Date of disability Cause of disability/ Diagnosis Outcome of Liability Review: Acceptance or Denial If Denial, reason for denial Date for which liability is accepted Initial payment dates
Ongoing Claim Management: The adjustor continues to monitor the status of disability. As dictated by the circumstances of the claim, other elements of ongoing management include work regarding benefit offsets, arrangements and assistance for return to work and continuing certification of disability	Nature and estimated amount of benefit offsets Possible RTW date Updated benefit offset information Increases due to COLA, if any Date of claim termination Cause of claim termination (e g death, RTW, benefits expired, or no longer disabled)

The above table simplifies the view of the process It is important to realize that the process specifics vary by company However, all components of this process are generally present

It is important for the actuary to understand the specifics of the process as they are executed at his company or client To effectively understand what data is captured, the cost of various parts of the process, and the timing of when the various components occur in the life cycle, the actuary should become familiar with the organizational structure of the claims area, where various elements are performed, who performs them, and the level of personnel involved in the different elements of the process

Contract

A solid understanding of the contractual elements of Long Term Disability is useful to constructing and interpreting analyses of LTD experience Some key aspects of the contract for which it is useful to have an understanding include:

- Basic provisions regarding eligibility for coverage, including pre-existing condition clauses (and for which business they are standard);
- For contributory and voluntary coverages, an understanding of enrollment practices and pre-existing condition clauses;
- Basic definitions of disability that are available, including definitions which change the standard of disability over time from "own occupation" to "any occupation" as will be discussed below;
- Provisions bearing on benefit amounts payable, such as determination of basic benefit amounts, and provisions bearing on how basic amounts are adjusted for

other contractual provisions (e.g. COLA) or for income earned during periods of disability; or for benefits from other sources, commonly referred to as offsets;

- Contractual provisions related to policy limits such as fixed time periods for benefits (e.g. 5 year durations), schedules of decreasing benefits by age, and limits based on conditions (e.g. Mental and nervous limitations); and
- Regulatory considerations that may impact application of provisions in various states (e.g. limits on pre-ex language in some states).

A few of these provisions bear greater discussion for familiarity

For Group Long Term Disability coverages, pre-existing condition clauses are common. A typical pre-existing condition limitation might exclude disabilities occurring within the first 12 months of coverage if the disability results from a Pre-existing Condition. The definition of a Pre-existing condition might read:

"A Pre-existing Condition is a sickness or injury for which during the 6 months prior to your effective date you:

1. received medical treatment, consultation, care, or services; or
2. took prescription medications or had medications prescribed; or
3. had symptoms or conditions which would cause a reasonably prudent person to seek diagnosis, care or treatment."

These clauses are formulated to protect the insurer and the employer from assuming liability of disability resulting from conditions that are already present when an individual becomes eligible for coverage. A common formulation of the provision is to have a fixed "look back" period of a number of months (6 in the example above) for which if the individual has received treatment, the individual must continue to work for a fixed period (12 months in the example) before a disability resulting from the underlying conditions

will be covered. Note that disabilities arising from other conditions would be covered during the period.

It is useful for the actuary to understand the definition and application of pre-existing condition limitations at their company since variations exist. Also, the provisions contained in the policy typically vary by size of the employer. A solid understanding of the provisions, and the variations among carriers and policies, can assist the actuary in analysis of results in terms of establishing if selection may be occurring at point of sale, and in the analysis of liability acceptance patterns that may differ between plans with different provisions.

Lastly, the applicability of pre-existing clauses is typically limited to the implementation of new LTD plans, new hires, late entrants into the plan, contributory coverages or increases in coverage. Contracts will allow for continuity of coverage for insureds covered under an existing plan that is replaced by a new carrier.

Many insurers typically offer a variety of different definitions of disability in their contacts. Most revolve around two central types: Own Occupation (Own Occ) and Any Occupation (Any Occ).

One of the most common definitions pays benefits for up to two years of disability based on the Own Occ definition, and thereafter the claimant must meet the Any Occ definition. A typical definition might read as follows:

"Disability or Disabled means that because of sickness or injury you are not engaged in any occupation for wage or profit and:

1. During the first 24 months of Disability, you cannot perform all the material and substantial duties of your regular occupation, and
2. After 24 months of Disability, you are completely unable to perform the material and substantial duties of any occupation for which you are reasonably fit by education, training, or experience."

Disability provisions can vary. For example, in some cases highly compensated employees might be provided with coverage under which the Own Occ definition applies throughout the benefit period.

It is important to note that along with the basic definitions of disability there are often other conditions or triggers to be met in determining disability – evidencing an income loss due to the disability, or being under the regular care of a physician are two common such conditions. Also, the Any Occ definition typically only results in termination of benefits if the insured can perform the duties of an occupation in which he/she can make an income that is reasonable in relation to his/her pre-disability income. Claim termination rates are typically higher at the transition point from Own Occ to Any Occ definitions, making this an important point in the life cycle of a claim for the actuary to understand

A thorough understanding of the definitions of disability and their application is particularly useful to the pricing actuary in evaluating rates for various industries and occupational classes. Highly skilled and highly compensated professionals who have a great degree of specialty may more easily satisfy the definition of disability relative to their own occupation, and may be less likely to find "any occupation" fields which

provide income that is reasonable in relation to pre-disability levels. More semi-skilled or moderately skilled workers will be more likely to have skills that transfer more easily and provide income that is reasonable in relation to pre-disability levels.

Most contracts contain provisions allowing the group coverage to offset benefits for income received through other programs for which the employee may be eligible while disabled. Foremost among these programs are Social Security Disability and Workers Compensation. Others may include disability benefits from other sources or potential retirement benefits. Again, the individual contract should be referenced.

Social Security and Workers Compensation often confer other benefits to the disabled beyond the income, such as access to or payment for medical care, or inflation indexing of the benefit. These additional benefits make receipt of awards from these programs worthwhile to the disableds even if award amounts are offset. It should be noted that some group disability policies may cover only non-occupation disabilities, so that if the disability results in a Workers Compensation award, no LTD benefits would be payable under the group policy.

Social Security Disability in particular is an important source of income for those who are severely disabled for long periods of time. Many companies will offer assistance, on their own or through a third party vendor, to the claimant with the application process. The Social Security process is structured in multiple levels and can take considerable time, making such assistance a valuable service. It is common for Social Security awards to be

denied upon initial application, and in many cases, multiple appeals must be filed before the award is finally approved

Because the approval process for Workers Compensation or Social Security benefits can be slow, in many circumstances, retroactive benefits will be awarded, resulting in overpayment of disability benefits. Part of the claim adjudication process is to monitor the status of these awards and take steps to recover any overpayments.

Financial Impact Points

It is critical in reviewing and interpreting analysis to understand at what points items of financial impact occur in adjudication, and at what points the financial systems recognize such an event and how they recognize such an event

Items of particular interest include:

- **Understanding at what point liability is recognized and a seriatim reserve is established**: Practices and timing may differ mildly by company in terms of when liability migrates from an aggregate type (e.g. IBNR) reserve to a seriatim reserve and what the trigger point is. Some companies reserve for newly reported claims based on known information; others reserve for these claims using an average amount. Some companies do not specifically reserve for newly reported claims until the investigation has progressed to a specified point – choosing to provide for these claim liabilities in the IBNR calculation.

- **Understanding how and when offsets are recognized:** Reserving methodology must take benefit offsets into account. Practices differ on when certain offsets are estimated based on contractual elements or estimated based on incomplete information. With offsets, an understanding of how the period of time for which they will apply is determined and recognized in the financial system is also important. Social Security basic awards are typically very long duration awards, however, social security family awards are based on ages of dependents, including children's benefits which terminate as the children age. Worker's compensation awards may be temporary or permanent. The process and timing of overpayment recoveries also needs to be reflected in reserve calculations.

Other Liability Issues

Other aspects of the process are useful to understand as well. In evaluating reserve liabilities, the history of litigation (and related costs) should be a consideration. An understanding of how litigation is tracked, how claims are recorded while in litigation, and how the liability is reflected is useful.

There can also be liability associated with claims that are recorded as closed. Claims that have been closed may reopen for a variety of reasons. The decision may be appealed and overturned through a formal appeal process. Alternatively, it is not uncommon for a return to work effort to fail or for the insurer to be presented with new information to evaluate. Understanding the timelines for evaluation of these items, and how claims are

recorded during the evaluation and when they reopen, is important in establishing reserves and for evaluating claim patterns for a book of business

Applicability to Pricing

An understanding of the areas above can improve the analysis related to pricing LTD products. The note will discuss two specific areas of pricing work: Experience Analysis and New Product Design.

Experience Analysis

In pricing LTD coverage, it is often necessary to conduct an analysis of claim incidence. This is typically conducted through an analysis of actual incidence to expected incidence utilizing the best information available relative to exposure (typically gathered from census information) and actual claims experience relative to expected incidence as defined by the pricing tables

Understanding the benefits process improves execution and interpretation of the incidence analysis. It is important to understand when a claim is financially recognized to be sure that experienced incidence is defined similarly to how the pricing tables are constructed. A simple example of a potential mismatch might be financial recognition of a seriatim reserve at time of submission as incidence, and pricing assumptions based on recognition only at time of first payment. Further, it is important to have an understanding as to whether the presence of short-term disability coverage (STD) impacts the processing or recognition of claims. Companies may have processes for claims that

extend from STD to LTD claims that may be different than LTD claims from non-integrated business. Not understanding these differences can result in misinterpretation of the results.

Understanding benefit process timelines for reporting and adjudication is important in interpreting incidence results as well. Lags from long elimination periods and normal claim processing timeframes can result in more recent months' data being incomplete relative to total incidence that will be experienced. An actuary with understanding of these patterns can either use completion methods to estimate the completion of the most recent months or set an appropriate lag to the study to eliminate the incomplete data periods.

Beyond incidence, the actuary will seek to understand claim resolution patterns in the form of claim termination rates. In interpreting observed rates and changes in observed rates it is important that the actuary have an understanding of (some of these mentioned previously):

- Provisions that may limit benefits for certain conditions, such as Mental and Nervous Limits
- Provisions which alter the definition of disability after a set period. For instance the 24 month Own Occ with Any Occ thereafter definition.
- Procedures and assistance regarding returning claimants to work

Some elaboration of the returning claimants to work is in order. Many claimants return to work at their original occupation with their original employer with little assistance form the carrier. However, many cases require assistance from the carrier. This assistance can range from contact with the original employer to establish revised job duties or accommodations, to a more formal rehabilitation program, to assistance in assessing capacity and identifying occupations in line with capabilities that are identified after any restrictions or limitations due to disability are taken into account. Practices of carriers vary over time; additionally, flexibility of employers, for a variety of reasons, can vary in being able to return individuals to the workplace (e.g. some employers by the nature of their work may be unable to accommodate revised job duties or a part time schedule).

Beyond the analysis of the components of incidence and claim termination patterns, the actuary will seek to combine the experience in terms of total cost or in terms of evaluating expected loss ratios. This type of analysis creates the need for a valuation of the liability created by the claims. Frequently, in pricing LTD, the actuary must rely on the reserve values inherent in the valuation estimates of liabilities to measure whether expected loss ratios (or other measures of performance) are emerging as expected. This creates a need for the pricing actuary to develop a degree of comfort with the adequacy of reserves. This is most often done through the creation and evaluation of runoff studies.

The standard runoff study is as follows:

Beginning Reserve	Payments	Discounted Payments	Ending Reserve	Discounted Ending Reserve	Discounted Reserve + Payments	Variance
A	B	C	D	E	F=C+D	G=A-F
10,000	1,050	1,000	9,200	8,762	9,762	238

A beginning reserve value is captured. Payments over a fixed period, typically one year, are captured along with the ending reserve. To account for the time value of money, the payments and ending reserve need to be discounted to the time of the beginning reserve at the rate of interest assumed in the beginning reserve. The adequacy of the reserve is then determined by subtracting the discounted payments and discounted ending reserve from the beginning reserve. A positive remainder indicates the reserve was adequate over the period to mature the obligations, while a negative remainder indicates that the reserve was inadequate to mature the obligations over the period. In our example, the initial reserve was adequate over the period by about 2%

It is more instructive and highly recommended to evaluate run off studies relative to a number of segments and dimensions. Some of the more critical dimensions are:

- Adequacy by duration
- Adequacy by various time periods (e.g. selected calendar years of incurrals)
- Adequacy by diagnosis
- Adequacy by business segment (e.g. case size, product)

Duration	Beginning Reserve	Payments	Discounted Payments	Ending Reserve	Discounted Ending Reserve	Discounted Reserve + Payments	Variance
Yr 1	2,000	250	238	1,900	1,810	2,048	(48)
Yr2	2,000	225	214	1,900	1,810	2,024	(24)
Yr 3+	6,000	575	547	5,400	5,143	5,690	310
Total	10,000	1,050	1,000	9,200	8,762	9,762	238

By way of demonstration, the previous example has been expanded into a duration view of adequacy. The results show modest deficiencies in the early durations that are offset in total by adequacies in the later durations. A pattern such as this could be very important to the pricing actuary in performing analysis on very immature experience, where the majority of claims may be in early durations, or in considering the impacts on experience rating, where more recent durations are typically used to replicate experience on the potential or current policyholder. Without understanding adequacy, the actuary may reach an inappropriate conclusion as to pricing levels.

When reviewing reserve adequacy studies it is critical for the actuary to understand the benefits process, and the dynamics of financial recognition to fairly interpret results. Some of the items to understand include:

- Knowing at what claim durations critical processes in claim evaluation take place to look for differences in results or align expectations. Such items as when claims undergo review for changes in contractual definition of disability from an Own Occ standard of disability to an Any Occ standard. These points of evaluation can evidence significant shifts in termination patterns.

- Knowing whether benefit processes have changed over periods under review is helpful in assessing causes for changes in claim runout patterns. Even changes in timing of decisions or timing of evaluation can change patterns of emergence of results.
- Knowing what the provisions are relative to policy limits on duration or diagnosis (e.g. 2 year limit for mental & nervous claims) and whether the application of these provisions has changed over time is important to understanding patterns of claim terminations.
- Understanding the "failure rate" of limiting provisions. In particular, a material percentage of claims may continue payments beyond the mental nervous limit either due to further investigation indicating a physical basis for the disability, or because contractual triggers for payment beyond the limit, that exist in many contracts, are met.
- Knowing whether reserves and payments include or exclude claims that are in litigation or have reopened is important. If they are excluded, the liability and experience should be validated separately.
- Knowing the practices with regard to settlements of claims. Carriers will sometimes mutually agree with a longer term claimant to settle the liability for a lump sum. Understanding the volume of these transactions and how they are reflected in the analysis and the termination rates underlying the analysis is important.

Two last points are to be made with regard to adequacy studies:

- Achieving credible volume in each cell for study is a challenge. It is best in this regard to look at data for as many periods are as available However, in viewing older periods be mindful that the external environment and internal practices may have changed.
- Only the payments in the adequacy analysis are hard facts The remainder is heavily dependent on estimates with regard to terminations or interest. Understanding the remaining assumptions and their sensitivities is important to reaching reasonable conclusions

Understanding whether assumptions relative to benefit offset amounts are being met is another critical area of review for the pricing actuary For Long Term Disability, offsets from Social Security and Worker's Compensation are critical elements of product pricing.

An actual to expected offset study is typically the most effective way to conduct the study Expected offsets are typically developed from the pricing or reserving assumptions applied to the open claim book at any period of time. These expected frequencies and amounts of awards can then be compared to actual frequencies and amounts achieved over the chosen exposure period.

Interpreting results appropriately will be dependent on the actuary understanding:

- At what points are claims typically reviewed for offset eligibility?

- At what durations do new awards, or loss of awards (e.g. temporary workers compensation) typically occur.
- For what duration of benefits the awards are coded.
- When are estimates of offsets used, and whether do they impact the study.
- How do changes in existing offsets impact the study?

New Product Design & Other Pricing Issues

The pricing actuary is often called upon to support product development. This often results in the actuary being called upon to price new product provisions. In these cases, one of the best sources of data for the exercise is typically data from existing business and existing provisions. Interpolating or extrapolating from this information is a fairly standard source of generating a view of pricing. To do this effectively however requires an understanding of how current provisions are administered, what data is captured in the process and is available for analysis.

Pricing actuaries are typically relied on to develop expenses estimates for use in rating. For LTD, the amount of expenses related to claim adjudication is not trivial. Furthermore, the actuary must consider all the expenses to be devoted over the life of the long term claim in pricing for current year business. In this sense, the actuary must price for an annuity of expenses over the life of the claim to be included in the current year rates and premium. Here again, an understanding of the process, the resources devoted to the process, and how those resources are devoted over the various time periods of the claim's life cycle is useful information for the actuary in this development.

Valuation

In a similar vein to our discussion of Applicability to Pricing, appropriate construction and interpretation of analysis for valuation purposes is reliant on a solid understanding of the interaction with the adjudication process.

Discussions concerning adequacy testing and analysis of offset experience are covered above. The valuation actuary may well need to develop adequacy studies on multiple bases (e.g. statutory, GAAP), but the principles of the intersection of the claim process with the construction and interpretation of the studies remains the same.

Additionally, the valuation actuary is likely to need to create and monitor a Loss Adjustment Expense Reserve (LAER) necessary to support claims management expenses for the existing book. What elements are to be included in the amounts to comprise the LAER are covered in other texts on accounting and requirements. However, the clear connect for us is with the understanding of expenses for claim adjudication. The actuary will need a clear understanding of the costs of various components of adjudication and their relation to the key decision points and duration in a claims life cycle.

Summary

The LTD adjudication process is one that is relatively complex and executed over a significant period of time. The infrequency of disabling events and sensitivities to multiple factors create significant challenges to executing analysis and differentiating

between trends and changes, and expected levels of volatility. A thorough understanding of the process itself along with the data captured, combined with knowledge of the interaction of the data with the financial recognition systems, can strongly enhance the design, accuracy, and analysis of studies for the LTD actuary.