LIFE INSURANCE AND WEALTH MANAGEMENT PRACTICE COMMITTEE

Discussion Note: Analysing Disability Income and Setting Assumptions

April 2017

Contents

1. Introduction

1.1 Status of Discussion Note

This Discussion Note was prepared by the Life Financial Reporting Sub-Committee (LFRSC) of the Actuaries Institute. It does not represent a Professional Standard or Practice Guideline of the Actuaries Institute.

This is the first version of this Discussion Note. It builds on the Information Note: *Framework for Setting Life Insurance Assumptions* with a focus on Disability Income.

1.2 Background

Disability Income (DI) products have grown in complexity over time in both benefit structure and type of benefits. There is an increasing need for life insurance actuaries to have a robust framework to analyse and set DI assumptions. Additionally, there is currently only limited coverage of DI assumption setting in the Actuaries Institute's Life Insurance specialist course and no detailed life insurance DI specific guidance on this subject.

The 2015 ADI 07-11 table was the first Australian retail industry standard disability table released since the IAD 89-93 table was issued. The release of the inaugural 2010-13 Australian group insurance claims experience study by Rice Warner in 2015 was the first study based on credible industry claims incidence and termination data for group business. These tables bring with them new considerations as well as highlighting the number of factors required to be considered when analysing retail and group DI experience.

1.3 Objective

This Discussion Note provides information to life insurance practitioners regarding DI processes and experience analysis to assist with setting assumptions regarding future claims experience for pricing and reserving.

1.4 Scope

This Discussion Note applies to both individual business in respect of DI products and group business in respect of Salary Continuance products. For ease, the term DI is used throughout this note to refer to both individual and group products.

DI Experience analysis can be conducted for a variety of purposes such as valuation and pricing. This note is intended to be generally applicable wherever DI assumptions are set and reviewed by an actuary.

1.5 Reasonable Judgement

Whilst this Discussion Note outlines issues for consideration when analysing DI claims experience and setting assumptions for future experience, the need to employ reasonable actuarial judgment applies in all situations.

Nothing in this Discussion Note should be interpreted as suggesting work to be performed that is not is proportionate to the scope of the DI investigation and commensurate with the benefit that users would expect to obtain from such investigations.

2. Claims process – the lifetime of a DI Insurance claim

The purpose of this section is to provide an overview of the lifetime of a DI insurance claim which is more complex and with more stages compared to a death claim. The last subsection sets out some potential areas for further consideration by reinsurers.

For this purpose, "a claim" is related to the same initial cause of claim and event/incidence date (as opposed to multiple claims by the same policyholder). A typical claim might involve the following steps; however, each company's process and product terms and conditions will differ slightly.

Please note the steps above can be iterative and are not always sequential. Ongoing claim review could also include rehabilitation activities as well as management of the level of claim payments.

It is important for the actuary to understand any material historical or intended future changes in the DI claims management process. Such changes could be considered when analysing experience and determining assumptions.

2.1 Claim Incident

An event happens which causes the life insured to meet the disability definition of the policy. This typically involves not being able to perform their work duties and being absent from work as a result. Some other claims definitions may also entitle the policyholder to benefits - for example the death of the life insured for ancillary death benefits or an injury to a family member for family ancillary benefits. In the case of sickness claims, the incident might not be well defined. The sickness incident date might be taken as the later of date of diagnosis and the date on which the insured started to meet the claims definition (for example being absent from work). This would follow from the product definitions.

2.2 Claim Notification

2.2.1 *Initial notification*

The policyholder or their representative such as a financial adviser notifies the insurer that the client would like to claim under their policy. In the case of group insurance, even more parties are involved and multiple notifications can occur in the communication "line", which can lead to multiple and different notification dates being recorded. In using the data for

the experience investigation care needs to be taken that consistent data is used and applied consistently to calculate reserves.

2.2.2 *Claim forms sent*

Generally, for individual business, the insurer sends claim forms to be completed, along with a specification of any additional evidence/information required. For group business, such information is sent by the scheme administrator or other representative. Some companies have a "teleclaims" process in place where some of these steps would occur at the same time.

2.2.3 *Not Proceeded With*

Insurers typically record the initial notification as a claim, even though it may not have all the relevant information yet. Claims are closed as "Not proceeded with" if, for instance:

- during a "teleclaims" call the policyholder realises they do not have a valid claim; or
- the claim forms are not returned to the insurer within a certain timeframe. This might happen if the policyholder realises they might not have a valid claim or if the policyholder's health improves enough that they no longer have a claim.

2.2.4 *Detailed claims notification*

Also known as the "Claim forms received" stage, the policyholder or their representative completes the forms and obtains any additional evidence/information as requested and sends it back to the insurer.

2.3 Claim Assessment

2.3.1 *Evaluation*

The insurer evaluates the claim based on the claim forms and the additional evidence/information provided and might decide to ask for further forms or evidence/information to be provided or send the claimant for independent tests/medicals carried out by a medical or allied health professional on behalf of the insurer (typically at the insurer's cost). The assessment will also include policy validation for retail policies (disclosure assessment) and eligibility for group policies (disclosure assessment where applicable and qualification under the group policy rules). The evaluation will also need to consider the availability of offsets from any other income (such as workers compensation or other policies) as well as current income level for indemnity policies.

The reinsurer will have different levels of involvement in claims assessment depending on the level of reinsurance, authority limits and the services agreed to be provided.

2.3.2 *Decision*

The insurer makes a decision whether to pay benefits or decline the claim. This decision will be made in accordance with relevant terms and conditions; including allowing for waiting period if applicable.

2.3.3 *Disputed claims*

If the claim is declined, or the client believes the payment terms are unsatisfactory, , a dispute might arise. This might either be settled between the insurer, the policyholder and its representatives or it might involve a third party dispute resolution process or legal proceedings. A dispute might also arise throughout the claims duration (often due to calculation/ partial or benefit entitlements disputes) or at the claim closure step.

2.3.4 *Ex-gratia payments*

Under some circumstances, the insurer may make ex-gratia payments. These discretionary payments arise out of a business decision, rather than a legal liability.

2.4 Claim Payment

2.4.1 *Ancillary benefits paid*

Approved ancillary benefits might be paid during the waiting period should the policy terms allow, for example rehabilitation and accommodation benefits. The amount paid is typically determined by the policy features and/or the sum insured according to the specifics of the relevant ancillary benefit.

Ancillary benefits are add-ons to a normal DI product and have grown significantly in number over time. Many of these benefits are used to differentiate between various tiers of DI cover.

2.4.2 *Regular benefits paid*

At the end of the waiting period, the insurer starts to pay the regular income benefits and any further ancillary benefits payable. Payments are typically made monthly in arrears, but practice differs across the industry and payment terms might also differ for specific claims based on that claim's features. For example, claims with higher duration have more certainty a claim will remain in force and multiple months' benefits could be paid at once.

The payment amount is specified by the policy features and might take into account: the sum insured, the claimant's earnings in the period prior to the incident (for indemnity benefits), offsets, only partially meeting the disability definition and ancillary benefits as defined in the policy features. An implicit "payment" is premium waiver benefits where the benefit effectively pays the policyholder's premium.

2.4.3 *Advance pay and close*

Some insurers have a practice called "Advance pay and close". This is where the insurer pays benefits in advance and then closes the claim (as a recovery). The benefit payment is negotiated between the insurer and the policyholder. Claims assessors are typically given guidelines and authority to negotiate payments for specific types of claims only (where the disability duration is highly predictable) and on a restricted set of policies, for example limits to sum insured. If the policyholder remains disabled at the end of the benefit period paid in advance, they have to get the claim "re-opened".

In terms of reserving, this means that "Advance pay and close" claims might have a different (usually higher) re-open rate compared to other claims, depending on the specific company's guidelines for these claims. For analysing terminations experience, these claims may need to be adjusted such that their termination date is set to be equal to the date they are paid up to.

2.4.4 *Partial claims*

The claimant might return to work part time or with alternate duties, in which case should a loss of income result from the ongoing 'disability', the benefits payable by the insurer might reduce or stop in line with the product features. The level of benefits payable might vary over the lifetime of the claim as a result of the claimant's changed circumstances triggering different definitions within the policy terms and conditions.

2.4.5 *Indexation*

On the anniversary of the claim (typically measured from the payment start date at the end of the waiting period), or perhaps more frequently according to policy conditions, the benefit amount payable is increased if the policy has a claim indexation option or similar. The most common method of indexation is in line with the CPI, but it may also be a fixed percentage. For example, benefits might index at 3% per annum subject to a minimum of inflation with a cap.

2.5 Ongoing Review

The claim is subject to ongoing management and review by the insurers' claims managers to determine whether the claimant continues to meet the disability definition and therefore whether benefits should continue to be paid.

This process might involve the policyholder being requested to provide further evidence/information on a regular basis and having further tests/medicals at specified intervals. The process also involves claims managers actively working with claimants to improve their health to enable them to return to work (or their normal duties). This might involve targeted rehabilitation/therapy, which will be paid for by the insurer. Insurers are prevented (by legislation) from paying for medical treatment although they are able to pay for rehabilitative and supportive therapies and initiatives.

2.6 Claim Closure

2.6.1 *Recovery*

The claimant might return to work full time (or otherwise not meet the disability definition) in which case the insurer will stop paying benefits, with the last payment typically a pro-rated payment for the period the claimant did meet the relevant definition.

2.6.2 *Death*

The claimant might die in which case the insurer will stop paying regular income benefits (although a death benefit might be paid), with the last payment typically a pro-rated payment for the period which the claimant was alive.

2.6.3 *Commutation*

For some products (depending on the policy features), the policyholder might request (including having the option under the policy to request) consideration to commute their benefits once they have been on claim for a prolonged period of time. In other cases, this might be a proposal put forward by the insurer or arise from legal settlement. The insurer then pays a lump sum benefit to the policyholder and does not make further payments for that claim and the policy is typically cancelled. Prior notification and agreement with the reinsurer may be required. Cancelling cover, particularly for Group business, can be problematic if the insured does recover and returns to work at a future date and is then denied future cover.

2.6.4 *Re-opened claims*

After a claim has been closed (due to recovery), the claimant might relapse and once more meet the disability definition. Most products allow a twelve-month period (often six months for shorter benefit periods) after the closure of the claim during which the claimant will not have to serve the waiting period again for a new claim due to the same or directly related cause as the previously closed claim. Relapse following this period might theoretically occur, but this would typically be treated as a new claim with a new incident date (and resultant serving of the waiting period).

2.6.5 *Maturity*

At the end of the benefit period (which might coincide with policy expiry), benefits are no longer paid by the insurer.

2.7 Additional Considerations by Reinsurers

The underlying lifetime of a claim is the same with or without reinsurance. However, some process and data differences may require additional consideration by reinsurers when assessing experience. A non-exhaustive list of these is set out below:

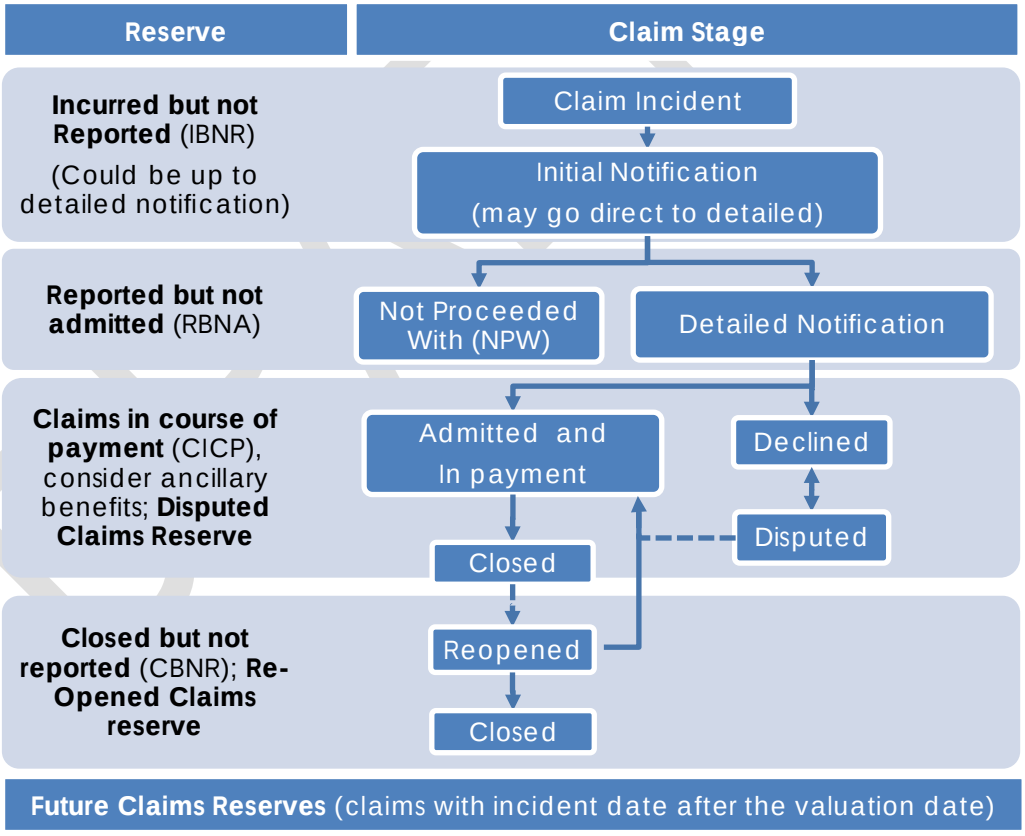
- Inconsistency in data field definitions across ceding companies;

- Additional notification process with the cedant;
- Whether claims that have reinsurer involvement have different experience;
- Reinsurers can cross-check a claim against the rest of their book;
- Data quality – for example not having the ancillary component explicitly or not receiving sufficient information on partials and offsets;
- Classification of re-opens relative to new claims may differ to the cedant's method.

3. Reserving across the claim lifecycle

3.1 Reserves by claim stage

The following chart shows typical reserves that insurers hold for DI claims split by the stages of the claims lifecycle. Different benefits on the same claim might be at different stages of the claim lifecycle and may be treated accordingly. It is important that all claims costs over the life of a claim are reserved for without double counting.



3.2 Incurred but not Reported (IBNR) Reserves

Prior to detailed notification, the insurer may have only limited information or may not know about a claim incident at all. IBNR reserves are held in respect of these claim incidents that have not yet been (fully) notified. This reserve could be calibrated to allow for all claims before the detailed notification stage.

A decision needs to be made as to the point at which a reserve is required. This may be at the initial notification stage or only when sufficient information is received to start an assessment. The IBNR calculation needs to be consistent with this decision and consideration needs to be given for higher rates of decline on earlier notified claims.

3.3 Reported but not Admitted (RBNA) Reserves

RBNA reserves are held in respect of claims that have been notified, but where no decision has yet been made to either admit or decline. The calibration period should not overlap the period covered by the IBNR. The RBNA calculation approach is usually consistent with CICP reserving, with additional allowance for expected declines. In addition to declines, allowance may be made for terminations between the valuation date and the end of the claim waiting period.

Special consideration needs to be given to RBNA claims where the valuation date is after the end of the waiting period. The Actuary could consider whether to include allowance for:

- Payments due from the end of the waiting period to the valuation date.
- Expected claim terminations from the end of the waiting period to the valuation date.
- Different rates of decline depending on whether the claim is in the initial notification stage or detailed notification stage.

A review of historical experience of RBNA claims could indicate whether to include the above elements based on materiality.

3.4 Claims in Course of Payment (CICP) reserves

3.4.1 *Admitted and In Payment*

CICP reserves are held in respect of the expected future claims cost for those claims that are admitted into payment. It could allow for expected future closures (terminations) and could allow for an expectation that a proportion of closed claims will re-open and resume payment.

For larger portfolios, the CICP usually comprises a projection of expected future claim payments. The projected claim payments may allow for:

- Partial payments – In some instances, claimants may not receive the benefit amount e.g. if their combined insurances result in a higher replacement ratio than that allowed under the product PDS. Adjustments for partial payments may vary by claim duration as some offsets to benefit payments may change over time as other sources of income decline or as the claimant returns to part-time work

- Claim benefit amount - This might be less than the sum insured for indemnity benefits.

- Premium waiver – This is an implicit cost which could be explicitly included in the CICP if the "active lives" projection continues to project future premiums payable by the claimant.

- Claims expenses – If not reserved elsewhere.

- As with RBNA, if the valuation date is before the end of the waiting period, consideration could be given to expected terminations in the waiting period. This could be seen as not being part of expected terminations, but rather these claims might only be seen as an incident if they reach the end of the waiting period.

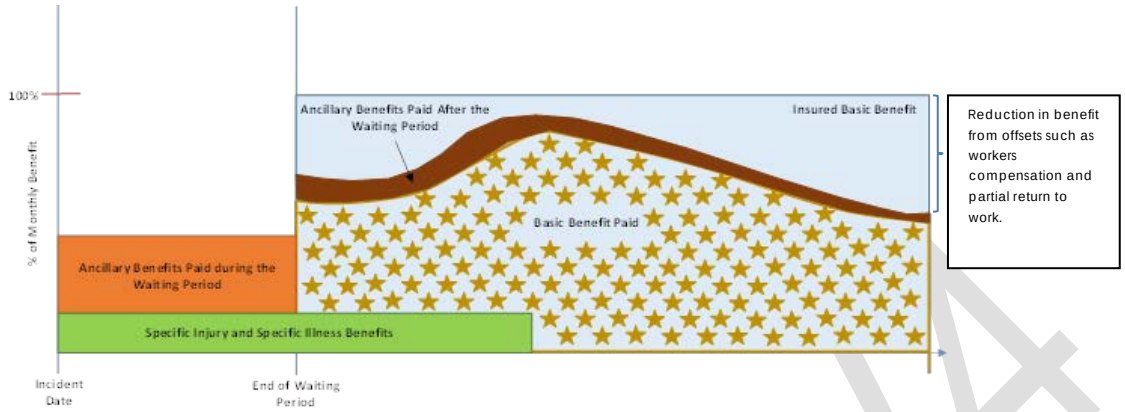
- Ancillary benefits – each ancillary benefit needs to be considered for assumption setting and approaches can range from a high level loss ratio or high level factor based on a driver, to inclusion in the full inception and recovery process depending on the benefit. The following needs to be considered when allowing for ancillary benefits in reserving:

    - All benefit outgo needs to be allowed for in assumption setting to ensure completeness and avoid double counting. Due to the high number of different ancillary benefits, this can be a common gap in reserving. Ideally list all possible benefit outgo types and decide on how each will be treated;

    - When allowing for ancillary benefits, the timing of the ancillary payment needs to be considered carefully, especially where an inception and recovery process is adopted, in order to ensure no distortion.

  Ancillary benefits may be paid both during and after the waiting period. Examples of ancillary benefits are meal allowance benefit, trauma recovery benefit, specific illness benefit, specific injury benefit, and accident option. See Appendix A for definitions of these ancillary benefits.

Figure X – Components of the Claims Cost



Reproduced with approval from KPMG

.

3.4.2 *Disputed Claims reserves*

These reserves relate to declined claims that have been disputed and which may convert to admitted claims in the future. Reserves might be based on an analysis of past experience or could be estimated for each claim based on the merits of the case with key input from claims managers and legal professionals where relevant.

Increased lawyer involvement in claims and greater awareness through social media can limit the extent to which historical data, if available, is credible.

3.5 Reopened Claims and Closed but not Reported (CBNR) Reserves

3.5.1 *Reopened Claims reserves*

Reopened claims reserves allow for the possibility that closed claims re-open. They can be calculated as the CICP reserve just prior to being closed multiplied by the probability of re-opening (which might differ by period since closing).

3.5.2 *CBNR Reserves*

CBNR reserves could be calculated as a deduction to CICP reserves, allowing for the probability that some proportion of the claims currently in payment no longer meet the disability definition under the benefit at the valuation date and won't receive further payments. Triangle techniques can be used to estimate the typical delay between the final payment date and the claim closure date.

The reserve for claims not paid up to the valuation date (typically large for CBNR claims) might also be reduced in line with the reduction to the CICP reserve (which only accounts for future payments).

3.6 Other Reserves

3.6.1 *Future Claims Reserves*

Future claim reserves are calculated as part of the active lives policy liability. This reserve considers the present value claims cost of future claims and generally requires assumptions regarding the likelihood of claim in addition to termination assumptions. The timing of the definition of incurred date (when a claim is projected to be a claim) in the projection should be consistent with the calculation of the IBNR reserves.

3.6.2 *Payment Due and Payments in Advance Reserves*

A 'payments due' reserve (liability) and a 'payments in advance' reserve (asset) may be held relating to prior period accruals.

4. Underlying Drivers of Experience

This section describes some typical considerations when understanding the drivers of DI claims experience and determining which drivers to include in an experience analysis.

4.1 Internal Drivers Affecting Claims Experience

Internal drivers specific to the insurer can influence DI claims experience. Examples of internal drivers are the underwriting, claims management, product design, pricing and selling practices.

Anti-selection may result from the mismanagement of internal drivers. For example, one objective of underwriting at policy inception is to appropriately price for medical risks entering the insurance pool. All other major pricing characteristics being equal, this may lead to better claims experience at early policy durations than the experience across all policy durations. The presence or absence of this underwriting selection effect can be observed when analysing incidence experience by policy duration.

Other forms of selection maybe observed in the experience. For example, incidence experience might be more adverse on policies with larger income replacement ratios as these policyholders have more financial incentive to claim. If replacement ratio is not available, experience by sum assured can be used as a proxy. The interaction of anti-selection with the lapse experience of the portfolio could be considered. This extends to assessing the impact on the remaining risk pool of premium increases arising from re-pricing as well as competitor activity.

The claims management processes would impact the terminations experience. For example, the claims function may run a campaign to review long duration claims. This may lead to improved experience at these longer durations that could be taken to imply an improved assumption. However, capitalising this into the assumption would require consideration of the sustainability of this experience. For example, the claims function may review claims at all

durations leading to favourable experience in the current year, but conversely worse experience in the future on current claims as those remaining may now be more intransigent.

4.2 External Drivers Affecting Claims Experience

DI claims experience can be influenced by external drivers such as the economic cycle, increased lawyer activity or improved policyholder understanding of their benefits. Possible considerations are whether these factors are permanent and consequently how they could be allowed for in assumption setting.

For example, in considering the effects of economic cycles on experience, a possible approach could be to set incidence and termination assumptions that reflect the expected midpoint of the economic cycle. This approach will lead to a misalignment between assumptions and experience at the peaks and troughs of the cycle (and consequently profits that follow the cycle), but tends to result in a more stable assumption over time. An alternative approach is to set a dynamic economic cycle adjustment that changes over time based on economic indicators. This approach can lead to more volatility in the experience investigation result and best estimate assumption but may better reflect the impacts of the prevailing economic environment in the short term. Both approaches require some level of judgement in deciding how best to quantify the effects of the economic cycle on the experience investigation outcome.

4.3 Identifying Emerging Trends and Drivers

An experience investigation is a tool used to identify and monitor emerging trends. However, the process is inherently retrospective and the extent to which a trend can be assumed to continue into the future will be impacted by the underlying driver for the trend and whether that driver is expected to persist.

As an example, historical termination experience could be deteriorating as long-term claimants might be less likely to recover but a recently introduced replacement product with more rigorous claim conditions (e.g. mandatory rehabilitation for claimants) might be expected to have different terminations experience to older generation products in run-off.

4.4 Quantification of Drivers

The quantification of the drivers of experience may be done through identifying analysis variables. As the underlying DI claims drivers may not explicitly be reported or quantified, analysis variables for the drivers are commonly drawn from the available fields. Grouping the experience by these variables and performing the experience analysis at this level of granularity allows the actuary to investigate the impact of the underlying drivers.

The standard analysis variables common to most investigations relate to policy characteristics such as: gender, age, product type, smoking status, medical underwriting, duration since policy issue, distribution channel, sum assured, occupation, known

impairment, calendar year or financial year, premium type (stepped / level) and class of business (super / ordinary).

However, there are also some factors specific to DI that could be considered:

- Indemnity or guaranteed – whether the benefit is a guaranteed amount or based on income in the period prior to disablement.
- Own occupation or any occupation – whether the accompanying TPD is paid when the policyholder is not able to perform their own occupation or any occupation
- Replacement ratio - The differing income replacement ratios could affect the incentive for claimants to return to work.
- Waiting period – The time following the incidence of the claim required to pass before payment of benefits begins.
- Benefit period – either fixed term or to age.
- Cause of claim – Some standard tables have overlays for termination assumptions based on claim cause (accident/sickness being most common). By applying more granular assumptions for major cause types, the reserve will change more organically with the mix of claims. This also leads to an improved forward looking pricing assumption. Claims could be grouped into major causes e.g. cancer; mental Illness; nervous disorder; cardio-vascular; musculoskeletal; other sickness; and accident.
- Late notification – Claims with delayed notification might have lower terminations than claims notified soon after the claim event as there is no possibility of early intervention for these claims. In addition, rehabilitation and retraining could be less effective for claims that are notified late.
- Duration from date of claim – The duration of a claim is a significant factor in their ability or willingness to return to work. Generally, due to high termination rates at earlier durations there are less claims in the analysis for longer durations. However, the assumptions at these durations often have a large impact on reserves – particularly for claims that have age-based benefit periods. The comparison with other information, including industry tables, together with a consideration of credibility of a portfolio's own experience is important.
- Duration from date of policy inception – An underwriting selection effect may arise due to, for example, the effect of underwriting at policy inception and financial incentives arising from income replacement ratios. A more detailed discussion is outlined in the next section.

- GSC - voluntary or default. Members with voluntary cover might be expected to have less favourable experience than members with the scheme's default level of cover, as members opting for additional voluntary cover may be selecting against the insurer.
- GSC – employer/industry. Different types of fund (or even different funds) may have different claims incidence/ terminations experience.
- Other possible variables could be considered e.g. cancellable vs. non-cancellable policies, the level of claims indexation, the extent of financial underwriting and geographic location of policyholder (post code, state, city/regional).

4.5 Review of Drivers of experience

The actuary could re-examine the possible drivers of DI claims experience regularly. One technique used to identify the key drivers and risk factors for DI claims is cognitive mapping. Cognitive mapping involves depicting the dynamics of (often complex) systems visually. The underlying causal relationships to be mapped can be garnered through discussions with subject matter experts in areas such as underwriting, distribution, retention, claims, pricing, valuation, value, business insights and risk.

5. Data Considerations

5.1 Data Sources

Key sources of data required for a DI experience investigation include:

- Claims data (can be in the form of payments data, regular census snapshots or a combination) containing:
  - Claim details (e.g. date of disability, cause, status) and
  - Claim transactions
  - Reasons for changes in claims status
- Exposure data
- Mapping tables or data dictionaries
- General ledger / accounts (actual cash movements)
- Underwriting (URE) data

5.2 Data Consistency

The treatment of data in the experience investigation and setting of assumptions needs to be consistent with both the data to which the assumptions are applied and how the assumptions are used in the model. Whilst this is applicable to all analysis, there are specific features of DI data and DI experience investigations due to the complexities of the product. These include:

- Two "decrement rates" being incidence and termination rates.
- Claims payments/status over a period, rather than a single cash flow based on one claims decision at one point in time.
- The presence of ancillary benefits and their interaction with basic benefits (for example no basic benefits are paid whilst a specific injury claim is paid).

5.3 Data Checks and Validations

Checks and validations that may be performed include:

- Reconciling payments data to the accounting system
- Formatting - e.g. date format, length, blanks. These checks are normally driven by the experience investigation model
- Identifying duplicate data
- Reasonableness checks on individual data fields. For example, ages expected to be between 15 and 70, reasonable benefit amounts
- Consistency checks between data fields within each dataset (e.g. within claims data and within policy data)
    - Order of dates correct - date of birth before date of entry and order of claim dates is consistent with the claim lifecycle
    - Disability date + waiting period = first payment start date
    - Claim closure reason consistent with data
        - length of claim consistent with status of benefit period expiry or not
        - an accident claim when there are no accident covers
    - Different claim records for the same claim are consistent within the claims data e.g. monthly benefit amount insured does not increase by more than indexation rate from one year to the next

- Consistency checks between datasets over time (e.g. between policy data at x and policy data at x + 1) and between different datasets (e.g. between claims and policy data)
    - Does a record exist in both the start and end of period?
        - Is this expected or not? No claim at the end of period should exist if it has been terminated, no policy is in force at the end of period if it lapsed
        - If exist in both, do the fields match for example gender, occupation etc.

Exceptions identified through the checking process should be investigated to determine what adjustments, if any, are required to be made to the data i.e. there may be appropriate reasons for the exception or the impact on the experience investigation results may not be considered material.

6. Analytical Tools and Techniques

Considerations around the analytical tools and techniques used to review and set DI assumptions will be similar to those of other assumptions. The Information Note: *Framework for Setting Life Insurance Assumptions* contains discussion of these considerations.

7. Validation Techniques

As with the data used, the actuary should take reasonable steps to review the consistency, completeness and accuracy of the results produced. The actuary should also consider describing the review in a report. This section provides some areas where DI specific checks could be performed in addition to the checks that would typically be performed for all experience analyses.

7.1 Internal Consistency Checks

The following internal consistency checks could be undertaken:

- Generally accepted relationships – for instance, smokers having higher actual and expected sickness incidence than non-smokers or termination rates reducing as the duration of claims increase;
- Spot checks - treatment of individual policies in exposure, expected and actual incidence and termination calculations can provide a useful check that the methodology is being applied consistently and as expected.
- Sensitivity checks – for instance, comparing ultimate actual to expected ratios under different IBNR/CBNR factors and decline adjustments on RBNA.

7.2 Comparing Results to Industry Experience

The company's results could be compared to industry experience in Australia as reflected in the 'DI Industry Experience Investigation Report'. This could identify underlying differences in the mix of business, and time period the results apply to (there is typically a longer delay with industry results). The root cause of these differences can be difficult to establish, but the analysis can provide an independent benchmark. Industry studies would tend to have more credible data for smaller segments. Credibility theory could be used to weight internal versus industry experience.

The results could also be compared to industry experience in other markets, taking into account differences in product structure and underlying drivers of experience.

7.3 Comparing Results to Financial Statements

The results could be compared with audited financial statements, interim balances or other relevant records, if these are available. Comparing an experience analysis view of claims cost by reporting period to profit and loss (P&L) claims cost reporting could highlight differences in these two measures of performance. It could also identify potential areas of experience investigation methodology that could be closer aligned to valuation or pricing methodologies.

The comparison might provide a useful independent check of emerging trends in financial reporting and could identify features of the experience that are not obvious in a pure amount/count, incidence/terminations A/E analysis. For example, analysis of claims cost could challenge the outcome of count A/E analysis - experience deviations for longer benefit periods might appear small in a pure count A/E analysis, but will be amplified by the longer duration of these liabilities.

Although it might not be possible to reconcile experience analysis and the financial view of claims costs exactly, experience analysis should reflect similar trends to P&L over a sufficiently long time horizon.

An example of a reconciliation of claims cost to P&L is shown in Appendix B.

8. Other DI Assumption Setting Considerations

8.1 Timing Considerations

As DI is complex and experience can be volatile, the actuary may consider reviewing experience annually at a minimum. Other assumptions that are less material and subject to less variation, can be reviewed less frequently – for example, every three years.

Particular attention should be given to the experience period. A long term view when setting assumptions will minimise short term trends and yield insight about longer term cycles. However, short term trends may result from structural changes in incidence and terminations

thus affecting IBNR, CBNR and reopen claim reserves. Insights from claims management and product management relating to the nature of observed trends can aid in developing assumptions.

Consideration will also need to be given to the timing and ordering of IBNR, RBNA and CICP assumption setting. This is because RBNA and CICP assumptions will be used in determining ultimate claims and hence the IBNR assumption.

Ancillary benefits also need to be considered carefully. Many ancillary benefits are "upfront", occurring near the start of a claim. The assumption setting and modelling approach should ideally reflect timing to ensure over- and under-reserving effects are minimized, having regard to the level of materiality of the benefits.

8.2 Modelling Considerations

The actuary may need to consider whether the assumptions are consistent with any simplifications or approximations that exist in the modelling. For example, a DI claimant that has recovered might return to the pool of active lives but could have a higher probability of going on claim again. Where the adopted modelling methodology explicitly projects these recovered policyholders, the experience investigation might separate these policyholders in the incidence investigation in order to derive explicit incidence assumptions for this cohort.

If a simplification has been employed, consideration could be given to whether the claims incidence is allowed for consistently with the method of simplification so that claims incidence is neither over nor under stated.

9. Reporting and Financial Impacts

Considerations around the reporting and financial impacts of DI assumptions will be similar to those of other assumptions. The Information Note: *Framework for Setting Life Insurance Assumptions* contains discussion of these considerations.

END OF DISCUSSION NOTE

Appendix A – Examples of Ancillary Benefits

Type	Description
Meal allowance benefit	An additional benefit covering the delivery of meals subject to a maximum. The assumption could be expressed as an additional cost using claims as a driver.
Trauma recovery benefit	An additional benefit of a set number of months of monthly sum insured triggered by recovery from a predefined set of trauma conditions. The treatment could be to include this as part of the normal inception / recovery assumption.
Specified Illness Benefit	This benefit is paid for a specified illness on diagnosis (irrespective of wait period and disablement). The ADI 07-11 table does not include this benefit however this could be priced or reserved for using trauma decrements from the lump sum standard table as a proxy due to the strong overlap in trauma conditions.
Accident Option[1]	"The insurer pays the monthly amount insured payable from the start of the waiting period if the life insured is diagnosed by a medical practitioner as being totally disabled within 30 days of an injury, and they are totally disabled for at least 14 consecutive days. The insurer will pay 1/30th of the monthly amount for each day." The ADI 07-11 table has 1-day accident rates in the incidence rate table and termination table, and day 1, 3, and 4 accident options have been included in the basic benefit.
Specified Injury Benefit[1]	"If the life insured sustains a specific injury during the period of cover the insurer will pay this benefit for the length of the specified payment period regardless of whether the life insured is totally disabled, needs ongoing medical treatment or is working. This benefit is payable during the waiting period." The ADI 07-11 table has specified injury explicitly separated from basic benefit incidence rates. The experience investigation treatment could follow the underlying table structure and apply the age rated incidence table.

[1] Example benefit wording taken from a PDS

Appendix B – Reconciling Claim Costs to P&L

Due to the complexity and ongoing nature of disability claim payments, is it often difficult to reconcile the trends and outcomes seen in the experience investigation with the financial results for a particular year. The claim costs in the P&L could be a combination of claim payments with IBNR and accruals, and expected future outgo in the form of CICP reserves (net of CBNR).

The claim costs in the experience analysis could be calculated using the same principles, but could differ to P&L claims cost for reasons set out below. The experience study expected is derived by combining best estimate incidence and terminations assumptions to form a view on expected total claims cost for a given year.

Potential complications in this comparison could include:

- Experience analysis might consider incidence and terminations experience separately without combining the two to form a view on claims cost. A claims cost view might further complicate experience reporting.
- A split of claims cost from financial results might not be available at sufficient detail to allow a meaningful comparison to experience investigations or vice versa.
- Methodological differences might need to be adjusted for example:

    1. Depending on the timing of the experience analysis, it might contain information that is more/less up to date than that reflected in the P&L for example, Re-opened or CBNR claims might have evolved differently in the intervening period between the P&L and experience analysis.

    2. P&L might contain one-off or aggregate adjustments that won't be a feature of experience analysis;

    3. Some subset of experience (for example, specific injury claims) might be analysed separately to other DI experience or more/less frequently but will be included in financial P&L;

    4. Accounting policies might require a claims accrual upon notification (i.e. On RBNA) adjusting for potential declines differently to experience analysis. In addition, accounting accrual dates could differ from notification dates;

    5. The P&L might be assessed on a different basis to experience analysis for example, Claims cost under USGAAP will include reserves raised on cohort assumptions rather than on current best estimate assumptions.

    6. Experience analysis results might include only material subsets of business whereas P&L will contain all business.

7. Differences in other assumptions (for example, Interest rate).

Given the potential complications, care should be taken when communicating the results of any P&L/ claims cost comparison.