Actuaries Institute.

Technical Paper: Analysing Disability Income Experience and Setting Best Estimate Assumptions
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1. Introduction

1.1. Status of Technical Paper

This Technical Paper (TP) was prepared by the Life Insurance Practice Committee (LIPC) of the Actuaries Institute and the Disability Insurance Task Force. It does not represent a Professional Standard or Practice Guideline of the Actuaries Institute.

This TP discusses considerations and approaches relating specifically to Disability Income (DI) products. It does not override the mandatory requirements in Professional Standard 201 – Actuarial Advice to a Life Insurance Company or Friendly Society (PS 201) and the requirements in Practice Guideline 1 – General Actuarial Practice (PG 1) that are relevant to work performed in this area. Attention is directed to the requirements of PS 201 and PG 1 as they relate to DI experience investigations and assumption setting.

This TP does not constitute legal advice. Any interpretation or commentary within this TP regarding specific legislative or regulatory requirements reflects the expectations of the Institute but does not guarantee compliance under applicable legislation or regulations. Accordingly, Members should seek clarification from the relevant regulator and/or seek legal advice in the event they are unsure or require specific guidance regarding their legal or regulatory obligations.

This is the second version of this TP. This TP endeavours not to repeat the content of the TP Framework for Setting Life Insurance Best Estimate Assumptions, which contains general material on setting best estimate assumptions for life insurance companies and is referenced in several places throughout this document.

1.2. Background

DI products are complex products subject to considerable experience variability and future experience uncertainty. The environmental factors contributing to claims incidence show significant variability over time. Long term benefits require periodic reassessment of incapacity where the medical, biopsychosocial and environmental factors can vary significantly over the duration of the claim. The design of some products can exacerbate this by creating multiple options for the claimant to remain eligible for claim while optimising their combined insurance and non-insurance income. These factors contribute to what insurers often regard as subjectivity in “unable to work” assessments.

DI product experience is therefore heavily impacted by factors such as economic trends, cycles and levels (such as wages growth versus inflation, employment prospects and consumer/worker confidence) and societal trends over time (such as mental health trends; impacts of technological changes on the nature and availability of work; and community expectations and attitudes including determinations and rules of regulators and mediators).

There is an increasing need for a robust framework to analyse and set DI assumptions to allow for the interaction between DI product terms and external environmental factors; the combined effect of which is referred to in this TP as “product optionality”. 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. This TP aims to help Members in this regard.

For retail business, an Australian retail industry standard disability income table is generally updated and published every 4-5 years. At the time of writing, the most recent table released is the Australian Disability Income (ADI) 2019-2023 table. In addition, the Council of Australian Life Insurers (CALI) publishes an annual experience investigation report into retail disability income experience, highlighting a number of factors typically considered when analysing retail DI experience. At the time of writing, there are no regular industry studies covering group DI experience. The last major study was the inaugural 2010-13 Australian group insurance claims experience study by Rice Warner in 2015.

The industry aggregated and published tables are critical but not sufficient to set best estimate assumptions for future experience. In addition to adjustments to calibrate for trends and insurer specific experience, they may need significant adjustment/modification to adequately reflect product optionality including the impact of other factors such as economic cycles and societal trends.

1.3. Objective

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

1.4. Scope

This TP applies to both individual business in respect of DI products and group business in respect of Group Salary Continuance (GSC) 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, pricing and effective claims management. This note is intended to be generally applicable wherever DI assumptions are set and reviewed by a Member.

1.5. Reasonable judgement

Whilst this TP suggests matters for consideration when analysing DI claims experience and setting assumptions for future experience, the need to employ reasonable actuarial judgement and consider materiality would apply in all situations.

The scope of any such investigations will depend on the materiality of the assumptions to be determined or the benefit users would expect to obtain from such investigations.

2. Complexity of DI products and market

As noted in Section 1, DI products are complex and involve a number of features and terms. For individually underwritten business, policies are accepted under complex underwriting standards and rules, while for group insurance business underwriting is typically applied only in limited circumstances (e.g. voluntary cover or benefits above automatic acceptance levels). Across both individual and group business, claims are managed through a range of claims management philosophies and approaches. There is also significant variation in products and approaches to underwriting and claims management across the industry and within individual insurers. In addition, these factors and important environmental factors are likely to vary over time and into the future.

2.1. Complexity in understanding experience

When analysing DI experience, setting assumptions and applying those assumptions in valuation and pricing models, Members may wish to ensure they have a sound understanding of these aspects, including:

- The key product benefits and terms, and how the different benefits (such as core benefits and ancillary benefits) interact and impact on claims experience (e.g. ancillary benefits available in the waiting period may impact core benefit experience that might be expected to vary by waiting period). There is also significant variability in retail DI products written either before 1 October 2021 or after 1 October 2021, following APRA's intervention into the IDII market. In general, products written post 1 October 2021 offer less generous products terms. Members may wish to consider these differences when setting assumptions, noting that the experience for the more recently written products may be less credible;

- Differences in underwriting approach including how these processes vary over time and how this may influence the experience. Within retail, there may also be differences between distribution channel, for example through superannuation funds, financial advisers or other (direct) channels where experience can be different;

- The interaction of multi-tiered definitions and benefits (e.g. partial and total disability) that essentially create optionality for claimants that influence the timing and duration of claims. The resulting claims experience may not respond predictably or proportionately to changes in underlying factors, as claimant behaviour and benefit utilisation can vary depending on future circumstances. As a result, the distribution of claims cost outcomes is likely to be skewed. The degree of skewness is affected by the product design and the availability and attractiveness of options in benefit designs in the unknowable future economic and social environments;

- Data systems and availability. Reliable claims data aims to be complete, consistent, and accurate. How information about the insurer's claims processes are recorded in the insurer's administration, claims management and accounting systems will impact on the data available to be analysed by the Member (Appendix 1 includes an overview of common approaches that may be helpful to consider in this respect); and

- How external factors (e.g. recessions) can impact past experience and influence the interpretation of the best estimate view of the future. Members may consider if the past experience will likely impact the forward-looking experience when setting assumptions.

Quality data is critical to soundly assess experience of DI portfolios, especially in times of significant experience variability and uncertainty. It is important that Members provide clear advice to insurers about deficiencies in the quality of existing data, and opportunities they see for further data collection and analysis which may reduce uncertainty in assumption setting.

Most insurers in Australia are unlikely to have sufficient data on a standalone basis to assess current experience with full statistical credibility across the full range desired for setting necessary assumptions. Even the largest insurers have limited long duration claims experience to allow statistically credible sub-sector analysis. Experience analysis and assumption setting will likely include consideration of broader industry experience. In doing this it is desirable, within the practical limits of information availability, to understand any key differences between the insurer's portfolio being analysed and the broader industry "average" portfolio that may impact relative experience. Such difference may include variations in:

- Product features, disability definitions and other terms (e.g. liberalness of definitions; significant, atypical ancillaries);
- Approach to underwriting, claims management and rating factors (e.g. providing income replacement ratios above/below industry average; occupation categories); and
- Claims reporting rules (e.g. when claims are recorded as notified, accepted, etc).

Utilising and benchmarking against industry data and experience needs to allow for the material effect of such differences.

2.2. Complexity in assumption setting

Assumption setting considers the historical period to which the experience analysis relates and the period for which the assumptions will be used. It is important that judgement is applied in setting assumptions that are appropriate for the projection period and not just reflective of past experience. PG 1 details how the user and purpose of the modelling are key considerations in assumption setting.

Whilst insurers can analyse past experience and have access to the Australian retail industry standard disability table showing industry experience, there still remains considerable uncertainty in DI assumption setting due to limited claims data (e.g. for long term terminations), complex product designs with optionality, and interactions with evolving socioeconomic environment.

In considering uncertainty it is helpful to consider several components:

- Levels of experience;
- Trends in experience;

- Drivers and risk factors behind experience (e.g. occupation class, occupation definitions);
- Interactions between variables;
- Volatility of experience;
- Effects of change in business processes and benefit designs;
- Impact and distribution of one-off events (e.g. pandemics, catastrophes, regulatory changes);
- Random variations that reflect outcomes based on a fixed statistical distribution; and
- Systemic variations that reflect outcomes where there is either a change in parameters for the distribution (e.g. trends) or a wholly new statistical distribution (e.g. product options).

3. Data considerations and validation

3.1. Data sources

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

- The insurer's own 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, policy details including policy number, claim number, whether claim is under dispute);
  - Claim transactions ideally including benefit type (e.g. main or the ancillary benefit identifier), date of transaction, relevant effective dates, nature of transaction (if different from a pure claim payment), data showing reasons (if relevant) why payment is different to sum insured (e.g. offsets, partial benefits, reduction for indemnity policies due to income at claim time insufficient to support contractual insured benefit, etc.); and
  - Reason codes for changes in claims clause or status (if available).
- Exposure data;
- Industry studies, incidence rate tables (e.g. ADI tables) and termination rate tables (e.g. ADI tables);
- Mapping tables or data dictionaries; and
- General ledger / accounts (actual cash movements).

3.2. Data consistency

The treatment of data in the experience investigation and setting of assumptions ideally will aim for consistency with both the data to which the assumptions are applied and how the assumptions are used in models, considering both pricing and valuation models. However, there may be differences in modelling approaches and some examples of these are included in Section 5.

Whilst this is applicable to all analyses, 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 (noting that claims development patterns can impact on both incidence and termination experience if insufficiently developed);
- DI claims are paid and managed over a period, rather than a single lump sum based on one claim decision at one point in time. This means claim payments can be lower than the contractual sum insured for a number of reasons, including partial benefits, offsets, insufficient income at claim to support full sum insured (as is the case for indemnity products), and claims closure followed by claims re-opening at a later date;
- 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); and
- Non-standard policies or claims which are in the experience investigation data and may not be relevant for the assumption setting.

3.3. Data checks and validations

Examples of general checks and validations that may be performed are covered in the TP Framework for Setting Life Insurance Best Estimate Assumptions.

Specific checks that may be included for DI business include:

- Order of claim dates is consistent with the claim lifecycle;
- Treatment of re-opened claims to ensure consistency with the modelling approach; and
- Commutations - Check that any very large claim payments are commutations or another form of settlement, and that the data is in a form suitable for the way the company treats these in the termination experience analysis.

Exceptions identified through the checking process could 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.

4. Understanding historical 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, mix of business (which may be influenced by pricing strategies) and selling practices.

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

Another consideration is differences in policyholder behaviour between stepped and level premium products which can affect lapse and selection dynamics particularly when the premium gap is wide. This dynamic affects the risk profile of the remaining pool and is relevant to understanding experience by policy duration.

Other forms of selection may be observed in the experience. For example, incidence and termination experience might be adverse on policies with higher income replacement ratios as these policyholders may have more financial incentive to claim and/or less incentive to return to work. At time of writing this note, data on replacement ratio is generally not readily available for all in-force business in insurers' policy administration systems. This is an example of a situation where Members could be advising insurers on the importance of the sound capture of important risk and behaviour data in their administration systems. Given recent reforms relating to replacement ratios, insurers may now capture this information more effectively and so this may not be as relevant for recently written business.

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 can impact the terminations experience. For example:

- The claims function may run a project to review long duration claims. This may lead to improved experience at these longer durations that could be taken to imply an increase in long duration termination assumptions would be appropriate. However, making such a change would benefit from 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 exhibit lower termination rates.

- There may have been changes to claims management processes. For example, introduction of new triaging approaches, increased rehabilitation usage or new biopsychosocial indicator tools (with management responses) that are intended to improve claims outcomes. Care is needed in assessing the impact of these initiatives because short duration termination rates may improve and longer duration termination rates deteriorate. For example, enhanced early intervention may accelerate recovery and return-to-work outcomes for claimants who were more likely to recover in any event, thereby increasing short duration terminations, while leaving a residual pool of claimants with more entrenched conditions, resulting in lower termination rates at longer claim durations. That is, the net benefit could be considered so it is not overstated and the uncertainty of longer duration termination rates understood.

- Other changes may also be relevant to consider, e.g. changes in claims philosophies, key personnel or outsource provider changes.

4.2. External factors affecting claims experience

DI claims experience can be influenced by external drivers such as changing regulatory requirements, medical advances, the economic cycle, lawyer activity identifying weaknesses in an insurer's practices related to procedural fairness, or improved policyholder understanding of their benefits. Changing policyholder behaviour could have a significant impact on disability income experience if it leads to increased incidence or longer claim durations. Community expectations may be expected to continue to change with external factors such as increased media scrutiny, external mediator approaches, as well as changing societal attitudes towards certain causes of claims, particularly mental health and wellbeing. These factors may be reflected in rulings for fairness by the Australian Financial Complaints Authority (AFCA).

It could be considered whether these factors are one-off, permanent or part of an ongoing trend. This will inform the view on how the factors could impact future incidence and termination rates in assumption setting.

Considering these trends and drivers, Members could consider if experience analyses need to include parameters/trends related to:

- chronological time (e.g. reflecting overall societal trends); and

- economic activities status and/or consumer/business confidence to reflect experience related to economic cycles.

4.3. Approaches to interpreting trends

Members could consider what analysis could be conducted using more advanced analytic techniques to reduce uncertainty in assumption setting. Techniques may include generalised linear models, and others such as those set out in Appendix 2 of the TP Framework for Setting Life Insurance Best Estimate Assumptions.

Appendix 3 of the TP Framework for Setting Life Insurance Best Estimate Assumptions provides detailed information on how to identify and allow for trends, step-shifts, cyclic effects and cohort effects in setting assumptions and provides alternative analyses methods to the historic approach many Members have adopted to multi-year aggregated incidence and termination rate analysis.

Specific consideration around trends for DI business include:

- Cohort effects for terminations: These arise because the termination experience of a cohort of claims in a period is often not independent of the experience in prior or subsequent periods. For example, a drive to terminate a subset of open claims which requires some element of intervention to close, will result in higher than expected terminations for the subset during the period of the drive. However, for the periods prior to or after the drive, terminations for that cohort may well be lower than expected. Cohort effects can arise from any temporary effects on claims terminations.

- Relationship between incidence and termination assumptions: If a significant trend or step shift is proposed for incidence rates, then it may not be automatically assumed that the termination rates of the incremental extra (or lesser) incidences will be the same as the whole portfolio. This could be taken into account when interpreting termination experience and finalising termination assumptions. For example, an increase in incidence arising from a greater proportion of mental health claims may lead to a claims portfolio with lower expected termination rates and longer claim durations than implied by historical aggregate experience. Accordingly, incidence and termination assumptions may need to be considered jointly, particularly where changes in incidence are expected to alter the characteristics of the underlying claims mix and therefore the future reserve profile.

4.4. Credibility and statistical consideration and techniques

The TP Framework for Setting Life Insurance Best Estimate Assumptions has appendices on “Analytical Tools and Techniques”, including references for further reading on credibility theory. Larger DI books may have sufficient credibility to apply analytical/statistical techniques to incidence analysis. The same applies to early terminations, as only a minority of claims continue beyond 12 months.

Challenges to be aware of in applying the techniques to DI business include:

- Consistency of incidence and termination: The risk of inconsistency emerging between incidence and termination rates may need to be managed when designing the detailed application of the techniques.

- Incidence: DI has a large number of product categories and rating factors. There may be separate assumed incidence rates by cause of claim. If incidence experience is to be given high credibility leading to a change in assumption, careful consideration is necessary as to how the change is cascaded down to product categories, rating factors and claim causes as many cells will have low credibility. An example of such a cell might be 90-day waiting period, female, non-smoker, blue collar, 5-year benefit period, indemnity basis, accident type claims for ages 41-45. The cascading process may have regard to key parts of the portfolio or claims causes which have driven the experience incidence change, but should not result in spurious significant assumption changes for low credibility components.

- Termination: Termination rates for longer duration claims (more than 12 months) are much lower than early duration claims and their drivers continue to vary by claim duration. Their financial significance is much higher than their statistical significance so outputs of pure mechanical models would typically be treated with care. It is inappropriate to aggregate all the longer duration (>12 months) together in one A/E, as that will be dominated by claims terminating in year 2, giving year 2 experience too much weight relative to its financial significance. More insight can be gleaned by the level and shape of A/E's by claims duration and, where appropriate, analysing experience using measures that better reflect financial exposure, such as reserve-weighted termination analysis rather than relying solely on claim counts or insured amounts. Credibility theory is most appropriate where there is no systemic pattern in the A/E's, and if applied the experience could be broken into relatively more homogeneous driver buckets. A further complication may be that the mix of claim causes in the insurer's portfolio can change over time because (i) incidence rates by claim cause may change and/or (ii) termination rates by claim cause can differ significantly. This may result in a significant delay between experience first emerging in a claims duration "bucket" and the mix of claims by cause in that bucket stabilising.

- Volatility: Termination experience, particularly at longer claim durations, can exhibit significant volatility from one investigation period to the next. This may arise from limited exposure, changes in the mix of claims by cause, temporary impacts of claims management initiatives, economic conditions, or other factors affecting claimant behaviour. Consequently, Members may face challenges in distinguishing genuine structural changes in termination rates from short-term fluctuations that are expected to revert over time. Care may therefore be needed before making assumption changes based on a single period of experience, particularly where the observed movement is not substantial, is inconsistent with known drivers, or has not persisted across multiple investigation periods. Members may wish to balance responsiveness to emerging experience against the risk of introducing unnecessary volatility into valuation or pricing assumptions through frequent assumption changes that subsequently reverse.

While statistical modelling and advanced analytics can enhance the accuracy and responsiveness of assumptions, a balance of quantitative analysis and professional judgment is important to ensure that emerging trends are not only detected but also properly understood in the right context.

5. Setting assumptions

5.1. Timing considerations

As DI is complex and experience can be volatile, Members may give consideration to reviewing key, material experience annually.

Attention may be given to the experience period. A long-term view when setting assumptions will minimise short term statistical variability and where analysed, yield insight about longer term cycles and underlying trends. However, short term trends may result from structural changes in incidence and terminations thus affecting Incurred But Not Reported (IBNR), Closed But Not Reported (CBNR)[1] 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, Reported But Not Admitted (RBNA) and Claims In Course of Payment (CICP) assumption setting. This is because RBNA assumptions may be used to determine the IBNR assumption and also directly used to determine the ultimate claim cost. More detail on timing considerations can be found in the TP Framework for Setting Life Insurance Best Estimate Assumptions.

5.2. Modelling considerations

Members may need to consider whether the assumptions are consistent with any simplification or approximations that exist in either assumption setting or modelling. If a simplification has been employed, consideration may be given to whether the claims assumption setting appropriately allows for the method of simplification, so that modelled claims cost is neither over nor under stated.

Some examples of specific considerations relevant to DI that Members may wish to consider are included below.

5.2.1 DI claimants

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. Another matter may be that office practice can mean claims are managed on a monthly basis which may not be easily transformed to a weekly termination rate.

5.2.2 Premium waivers

Consideration could also be given to how any waiver of premium benefits is modelled - i.e. whether there are any disabled lives in the active lives projections where the incidence rates are applied (for example in a multi-state model which projects recoveries of disabled lives) or whether disabled lives are excluded due to being on claim.

[1] Refer to A.2.5 for details of the definition

5.2.3 Ancillary benefits

Ancillary benefits also may need to be considered carefully. Many ancillary benefits are “upfront”, occurring near the start of a claim. The assumption setting and modelling approach could ideally reflect timing to ensure over- and under-reserving effects are minimised, having regard to the level of materiality of the benefits. If the termination rate analysis is based on benefit payments, care should be taken to avoid misstating early duration termination rates. Ancillary benefit payments and income offsets can reduce or inflate payments in the early periods of a claim relative to the contractual sum insured, which may distort payment-based termination rate calculations if not appropriately adjusted for.

5.2.4 Super-linked policies

Retail life insurance can be structured so that policies are owned by the individual policyholder (“Ordinary”) or held by the trustee of a superannuation fund (“Super”) with some policyholders holding cover across both structures (‘Super-linked’). Super-linked policies are a set of ordinary and super policies which are effectively linked to each other. When the super component of the policy is eligible for claim, the super policy makes the payment and the ordinary policy sum insured is reduced by the claim amount (and vice versa).

Policies sold within super generally receive more favourable tax treatment and hence are more cost effective. Insurance held within superannuation must align with the conditions of release prescribed under the Superannuation Industry Supervision (SIS) Act, and as a result, cover is generally restricted to either Death, TPD, or Income Protection policies. Policies sold within super also have more restrictive definitions and benefits compared to ordinary policies.

The treatment of super-linked policies in experience studies as well as modelling may warrant consideration to ensure that the exposure or claim amounts are not double counted (i.e. a claim on the super policy reduces the sum insured of the ordinary policy). In addition, policies that are super-linked may have different rates of incidence to ordinary policies, particularly when the disability definition in super is more restrictive than the ordinary policy.

5.2.5 Group considerations

Group insurance experience data in Australia typically does not have the level of detail required to perform a seriatim level decrement study due to the quality of membership data. In this case, standard practice is to aggregate the data to a higher level (e.g. fund level) to perform the experience study, set the assumptions based on aggregate loss ratios and model the business at this higher level. Note that termination assumptions may still be set based on the claim experience data to determine the CICP reserve.

When setting assumptions for group business, consideration may be given to the time periods chosen for analysis, particularly where there may be a large amount of IBNR in recent periods. Members may wish to consider how the level of credibility in the period chosen to set the loss ratios may impact potential variability of the ultimate experience.

Where there have been historic changes to either products or premium rates, consideration may be given to whether the historic experience is to be adjusted or rescaled to reflect a consistent premium basis over time. Consideration may be given to how the product and premium basis in the historic period analysed relates to the basis used for future modelling of the business, and whether adjustments may be needed to the assumptions to reflect any differences.

5.3. Consistency between incidence and termination assumptions

Common practice is for the experience analysis and assumption setting for incidence and terminations to be done separately. Extra care may be taken to ensure the input claims data, experience analysis methodology applied and the assumption setting approach adopted is consistent between the two components or that the inconsistency is understood and immaterial.

Examples of where inconsistency may arise include:

- Treatment of reopened claims and paid and finalised claims in the experience analysis;
- Ancillary benefits are not explicitly analysed or modelled inconsistently between incidence and termination;
- The level of granularity at which the incidence and termination analysis is performed;
- Approach to allowing for partial benefits, offsets and application of indemnity provisions to reduce the benefit payment below the sum insured where those adjustments may exhibit a different termination pattern;
- Consistency between incidence rates that are often claim cause agnostic and termination rates that typically vary by claim cause (and other inconsistencies);
- The basis on which the assumptions are determined (e.g. switching between count and amount basis).

The consistency is crucial to ensure the overall claims cost projected in the model (as an outcome of the incidence and termination assumptions) is in line with the actual claims cost. One option to consider whether any element of inconsistency may be distorting the overall basis is to compare the expected claims cost to the actual claims cost (historical payment plus reserves). For GSC it is often the case that a loss ratio approach is used after termination rate assumptions are set. This may reduce some of these issues (and introduce other issues related to understanding of underlying incidence experience changes).

5.4. Quantification of individual policy drivers

The standard analysis variables common to most disability income investigations relate to policy characteristics such as:

- Gender;
- Age;

- Smoking status;
- Duration since policy issue;
- Distribution channel;
- Sum assured;
- Occupation or employed vs. self-employed;
- Medical underwriting and known impairments;
- 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, with the product that the factors are most likely relevant shaded in the table below, noting it may be relevant for other product types. Note that these are intended to act as a guide for what Members may consider when setting assumptions, and in no way are required factors to consider.

Factor	Description	Retail	Group
Multi-benefit status	Whether a policy contains multiple benefits (e.g. TPD and DI policy) or is sold as a standalone policy.		
Disability definition	The definition of disability applicable (e.g. Own Occupation, Any Occupation) and changes in the definition of disability over time with its consequent impact on terminations e.g. own to any occupation		
Waiting period	The time following the incident of the claim required to pass before payment of benefits begins.		
Benefit period	Either fixed term or to age.		
Indemnity or agreed value	Whether the benefit is a guaranteed amount or based on income in the period prior to disablement.		

Factor	Description	Retail	Group
Replacement ratio	The differing income replacement ratios could affect the incentive for claimants to return to work.		
Notification delay	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 fewer claims in the analysis of longer duration claims. 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. Where the insurer's own experience has insufficient credibility, external information such as the standard table termination rates may be used with suitable credibility adjustment unless there is sufficient reason to depart from it.		
Lawyer involvement	Whether there has been lawyer involvement in a claim or claim dispute.		
Workers compensation	Whether the policyholder or claimant has also claimed on workers compensation.		

Factor	Description	Retail	Group
Cause of claim	Claims may be grouped in major causes (e.g. cancers; mental illness; nervous disorder; cardio-vascular; musculoskeletal; other sickness; and accident). Analysis by "objective" vs "subjective" claim status may be considered, especially given the potential for the progressive shift in the prevalence of the latter over time. 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 leads to improved forward-looking termination assumptions for claims in course of payment. Where incidence assumptions are also grouped in a consistent manner, it leads to a more forward-looking pricing assumption.		
Pre or Post IDII Product Changes	A number of changes to IDII product design were implemented by Australian insurers after 1 October 2021 following APRA's intervention in the IDII market. Generally, these changes were designed to improve the claims experience of IDII business (e.g. lower replacement ratios reducing the incentive to claim), and so experience may differ between products written before and after 1 October 2021.		
Group cover type	Voluntary vs default. Policyholders with voluntary cover might have different experience to those with default cover.		

Factor	Description	Retail	Group
Group fund type	Employer vs industry. Different types of funds (public offer vs closed membership) or funds from different industries may have different claims incidence experience.		
Customer/ claimant behaviour	The level of customer awareness of insurance benefits may vary depending on the fund which may have an impact on claims incidence experience. Customer awareness may increase when there have been notices sent to policyholders including content on insurance benefits. Can also be relevant for retail business.		

Other possible variables could be considered e.g. cancellable vs. non-cancellable policies, the level of claims indexation, the extent of financial underwriting and the geographic location of policyholder (post code, state, city/regional).

Other data collected at underwriting or in course of claim assessment and management (e.g. biopsychosocial data, claims subject to lawyer involvement, disputed claims, or other specific changes in underwriting or claims approaches) may be investigated, to help understand the experience, even if not formally rating factors for pricing or part of the actuarial projection model.

Which of these drivers, if separately quantified, materially impacts the end result may be assessed and considered. Consideration could also be given to the fact that the impact may be different for different applications (e.g. liability assessment of a given current mix of business versus pricing for an unknown future mix of business). It is likely that not all the above factors will be material for all purposes.

The use of relevant analysis tools to objectively identify key experience drivers may also be relevant (as discussed in previous sections). To support this analysis, the Member may advise the insurer of additional categorical data that could be collected in future to improve understanding and reduce uncertainty in assumption setting.

6. Uncertainty in DI assumption setting

6.1. Sources of uncertainty

There are different sources of uncertainty underlying future DI experience. When setting assumptions for the future, Members may consider and advise insurers on factors such as:

6.1.1. Future claims experience shifts including trends

Trends are defined as a systematic change in experience over a period of years. This would include potential future environmental and societal changes (such as social attitudes, medical and regulatory factors). An example is society's attitude towards procedural fairness and mental health conditions as reflected in AFCA determinations. Other examples of environmental factors are the impact of technological change on workers' wage growth, work availability, nature of work and work security.

Appendix 3 of the TP Framework for Setting Life Insurance Best Estimate Assumptions details a number of types of experience shifts including trends, step shifts, cyclical effects and cohort effects. Each source could be considered in setting best estimate assumptions.

6.1.2. The economic cycle

For cyclical items, for example 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 could lead to a misalignment between assumptions and experience at the peaks and troughs of the cycle (and consequently profits that follow the cycle) but could result in a more stable assumption over time. This approach may be suitable for pricing; however, for valuation, consideration may be given to contract boundaries and management actions meaning the incidence assumption may have a short time horizon and this approach may not be appropriate.

In practice, the timing, duration and magnitude of economic cycles are difficult to predict, and it may be challenging to determine where current conditions sit relative to a long-term cycle. As a result, Members may find it more robust to consider a range of plausible economic scenarios and assess the sensitivity of assumptions and results to those scenarios, rather than relying solely on a point estimate of cycle position.

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 best estimate assumptions but may better reflect the impacts of the prevailing economic environment in the short term.

It is necessary to distinguish between what may be short term economic cycle impacts versus trends discussed in section 6.1.1. The approach for incurred claims liabilities and future claims may also be different.

6.1.3. Credibility approaches and cohort effects

The non-independence of assumption parameters and cohort effects in termination rates are sources of uncertainty. For example, the level and types of claims incidence may influence termination rates. For a cohort of claims the level of terminations at one duration is influenced by that cohort's experience at earlier durations and in turn influences its experience at later durations.

Consideration could be given to the extent that the credibility approach could lead to setting optimistic assumptions for longer claim durations, such as:

- A scenario where both long and short claim duration experience is favourable and there is limited long duration experience (therefore not very credible). In this case, if long and short duration claim assumptions are set by credibility-weighting on the combination of short and long duration experience there is a risk that too much credibility is given to the long duration experience and assumptions could be optimistic; or
- Equally, if short claim duration experience is favourable and long duration experience is unfavourable then credibility-weighting long duration termination rates on only the long duration experience may place too little credibility on adverse long duration experience and the assumptions could also be optimistic.

Consideration of the credibility approach used across different cohorts of business could avoid unintentional optimism in the assumption set. The relationship between parameters is complex and may vary over time and in various conditions. However, the reverse is equally possible where overly conservative assumptions from overweighting a short period of adverse long duration experience may reflect a temporary cohort effect rather than genuine deterioration.

Refer to Appendix 3 of the TP Framework for Setting Life Insurance Best Estimate Assumptions for more information on setting assumptions considering cohort effects.

6.1.4. Product design and the environment

Other potential sources of systemic changes that may not have appeared in historic experience data and the Member could consider in their best estimate assumptions include:

- Recent/future changes in product design and/or definitions with consequent limited available data with which to estimate the mean;
- As noted in section 2, optionality in product design and multi-tier definitions that may increase skewness in the distribution of claims cost and, thus, could be considered as a cost in the best estimate assumptions (i.e. history shows that product optionality and complexity in itself has a cost); and
- The possible interaction between product designs and policyholder behavioural effects as well as potential future changes in the environment (e.g. societal, regulatory and economic) that may impact future claims costs.

For a new product or benefit it takes a long time for the overall claims cost experience to emerge, especially for long ("to age") benefit period products. Termination experience only emerges as the claims in course of payment build up and mature into longer durations. Measured product performance in the early years is highly dependent on assumptions not yet backed by credible experience for that product/benefit.

Best estimate assumptions for longer duration benefits may include a larger component related to uncertainty than short duration benefits. This may be particularly apparent for termination rate assumptions where there is a combination of compounding effect and lower credibility of experience at longer durations.

6.1.5. Asymmetry in the claims distribution

Section 6.1.4 mentioned how optionality inherent in DI products may skew the distribution of claims cost outcomes due to the changing attractiveness of various product options in unknowable future economic and social environments.

Examples of DI optionality that may skew the claims distribution include:

- Tiered total disability definitions;
- Partial disability benefits;
- Automatic indexation of agreed value sums insured;
- Lifestyle and other options outside of the insurance product;
- Customer decisions that impact the effective replacement ratio; and
- Future economic conditions impacting the relative value of the customer's product and other options.

For products with high optionality there may be considerable uncertainty surrounding the degree of asymmetry in the claims distribution for future periods over which assumptions will apply.

6.1.6. Management actions

When allowing for uncertainty in best estimate assumptions, it could be reasonable to consider assumptions related to probable management actions related to future consequential premium rate changes or claims management practices. This would give rise to consideration of how to model (explicitly or implicitly) the value of management actions in respect of factors such as premium re-rating or claims handling.

Prospective changes in the insurer's claims management (and other operational practices) that are expected to offset (historic or future) trends in claims experience could receive careful consideration about whether the offset is partial, repeatable and/or compounds in future years.

It is common for approved future changes to premium rates to be included in modelling. Any such allowance could be combined with consideration of assumptions related to side effects of the changes (such as anti-selective lapses) and other factors that may increase future uncertainty in claims cost.

Consideration of the insurer's pricing philosophy is likely to reveal a range of practical and market related factors that mean any future repricing will at best only partially offset the uncertainty crystallising. That is, premium rate increases are likely delayed and/or capped compared with the range of outcomes arising from the uncertainty crystallising. Particular consideration is likely for uncertainty arising in termination rates after claims are incurred (and, thus, premium rate changes cannot offset the cost).

6.2. Approaches to valuing uncertainty

The best estimate assumption setting process might usefully include an assessment of parameter variability or uncertainty in respect of vulnerability to the effects detailed in section **Error! Reference source not found.**. These variability parameters may be considered as part of the best estimate selection process. This could provide critical input to the processes of applying the best estimate assumptions, especially in the context of activities such as: (i) product design, (ii) pricing (margins for risk and Return on Equity), (iii) application of the insurer's pricing philosophy, (iv) capital management, (v) reinsurance and (vi) risk management strategies.

This approach is likely to highlight higher uncertainty for factors including:

- long duration benefit periods;
- multi-tiered disability definitions;
- multiple benefits for similar conditions (e.g. partial, total disability, day 1 accident, …); and
- long term guarantees on product terms.

More detail on approaches to uncertainty is covered in the TP Framework for Setting Life Insurance Best Estimate Assumptions.

6.3. Uncertainty and sustainability of DI products

A sustainable industry is essential for policyholders, future customers and insurers. For insurers, sustainability would enable an environment where risk exposure, financial performance and experience can be priced with a reasonable margin. Furthermore, when experience emerges it can be managed broadly in line with expectations so that insurers continue to sell insurance products that meet customer needs and shareholder required returns. For policyholders a sustainable industry should also result in relatively stable premium rates and product terms and conditions. The various types of uncertainty represent risks to sustainability.

There has been a significant increase in claims cost for disability income benefits over a long period in Australia. Some of this is attributable to the community's attitude about claiming for, and remaining on, disability income benefits. Many types of occupationally defined disability income insurance, whether provided by a life insurer, the employer (workers compensation) or the government have been subject to this trend.

Theoretically, assumptions could be set to capture the cost of uncertainty. However, sustainability is ultimately a function of factors such as product design, underwriting standards, claims management approaches, risk management strategies and marketing strategies. The Member could consider their evaluation of uncertainty as a mechanism to help management assess the relative sustainability of the choices available to management.

6.4. Communicating uncertainty

The Member could form a view on the degree of uncertainty in key assumptions and advise on future work or actions to reduce uncertainty. A clearly communicated view on the relative uncertainty of choices that management could take with product design, operational practices and risk management strategies may be critical to long term sustainability of the product. This could take account of aspects such as:

- Uncertainty is more likely to be asymmetric and adverse to the insurer because (i) DI products have optionality in favour of the consumer and (ii) changes in social attitudes are unlikely to involve a reduction in expectations on insurers;
- It may be common to need 5 years of experience before making a reliable judgement on the impact of changes. This is exacerbated for DI products where an improvement in claims incidence or early duration termination rates may result in adverse changes to termination rates at longer durations; and
- Past experience suggests there has historically been underestimation of the cost of new products and material product changes, particularly where there is limited experience data available to assess how policyholders, claimants and insurers respond to the new design features in practice.

7. 6.1.6Validating, reviewing, recording and disclosing assumptions

As with the data used, the Member could take reasonable steps to review the consistency, completeness and accuracy of the results produced.

The following internal consistency checks could be undertaken:

- Known risk characteristics – 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; and
- Sensitivity checks – for instance, comparing ultimate actual to expected ratios under different IBNR/CBNR factors and decline adjustments on RBNA.

The Member could also consider describing the review in a report. More detail on validating, reviewing and assumption records and disclosure is included in the TP Framework for Setting Life Insurance Best Estimate Assumptions.

Appendix 1: Claims processes & reserving processes

1.1 Claims process – the lifetime of a DI insurance claim

The purpose of this appendix 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 and other lump sum based claims. Subsection 1.1.7 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.

Figure 1: claims lifetime

Please note the steps above can be iterative and are not always sequential and timings will be influenced by the waiting periods and benefit periods of claims.

"Claim Assessment" includes claims management triaging, preliminary claims management approaches, preliminary bio-social and/or psycho-social assessments and initial claim entitlements.

"Ongoing Review" includes rehabilitation and return to work and claimant support activities, as well as management and reassessment of the level of claim payments.

It is important for the Member 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.

1.1.1 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 some or all of their work duties and being fully or partly absent from work as a result and/or being unable to earn their full normal income. 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.

1.1.2 Claim notification

Initial notification

The policyholder or their representative, such as a financial adviser, notifies the insurer that they would like to claim under their policy. In the case of group insurance, more parties may be involved and multiple notifications can occur in the communication chain, which can lead to multiple and differing notification dates being recorded. When using this data in an experience investigation, care may be taken to ensure a consistent notification date definition is applied across both the experience analysis and the reserving calculations.

Initial claims information collection

Generally, for individual business, following an initial "notification", the insurer collects relevant event and claim information. This can be via any/all of online claims tools, phone apps, "teleclaims" processes and/or email/paper based forms. Concurrently or subsequently, the insurer may request additional evidence/information required.

Better practice would be to seek to obtain initial bio-social/psycho-social information/indicators for the claimant at this stage.

For group business, such information may be collected and communicated via the scheme administrator or other representative.

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 the information collection stage the policyholder realises they do not have a valid claim; or
- the life insured does not complete the information collection request 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.

Detailed claims notification

Also known as the "information received" stage, the policyholder or their representative provides the requested information, including any additional evidence/information as requested by the insurer.

1.1.3 Claim assessment

Evaluation

The insurer evaluates the claim based on the evidence/information provided.

This can involve any or all of:

- Preliminary claims assessment based on type of claim (including initial case estimate determination);

- Triaging of the claim, including allocation to appropriate, qualified claims assessor/case manager, initial claims management plan outline, including potential support and return to work needs (reflecting inter alia, cause of claim, occupation and bio-social/psycho-social indicators/assessments);
- Need for further evidence/information or assessments, including requesting the claimant participate in independent tests/medicals carried out by a medical or allied health professional on behalf of the insurer (typically at the insurer's cost). Such an assessment will often include policy validation for retail policies (disclosure assessment) and eligibility for group policies (disclosure assessment where applicable and qualification under the group policy rules).
- Consideration of 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.

Decision

The insurer makes a preliminary decision whether to accept and commence paying benefits and implementing the claims management plan, commence payments subject to further analysis/assessment, or decline the claim.

This decision will be made in accordance with relevant policy terms and conditions, Life Code of Conduct and insurers claims management philosophy; including allowing for waiting period if applicable.

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 (internal dispute resolution; IDR) or it might involve a third party dispute resolution process or legal proceedings (external dispute resolution; EDR). A dispute might also arise throughout the claims duration (often due to calculation/ partial or benefit entitlements disputes) or at the claim closure step.

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.

1.1.4 Claim payment

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.

Some 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.

Other such as rehabilitation support are likely to reflect core claims management and claimant support tools and arrangements than “ancillary’ extras.

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 terms 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.

Advance pay and close

Some insurers adopt a practice called “Advance pay and close” for some reasonably predictable claim types. This is where the insurer pays benefits in advance for all or part of the expected claims duration 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 (i.e. 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. Members could allow for these claims if this occurs in material numbers when analysing terminations experience, for example 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.

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 terms. 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.

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.

1.1.5 Ongoing claims management & review

The claim is subject to ongoing management and review by the insurers' case managers and claims assessors to:

- Implement the claims management plan for the claim;
- Reassess return to work plans and approach, including rehabilitation and other support needs; and
- Determine whether the claimant continues to meet the relevant disability definition and therefore whether benefits should continue to be paid and at what level.

This process might involve the policyholder being requested to provide further evidence or information on a regular basis and having further medical tests 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 may be contracted by, paid for, or reimbursed by the insurer as allowed by legislation. Note that legislation limits life insurers' ability to reimburse and fund certain rehabilitative and supportive therapies and initiatives, especially those considered medical treatment costs.

1.1.6 Claim closure

Recovery

The claimant might return to work full time (or otherwise not meet a relevant 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.

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.

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.

Similar to the "Advance pay and close" situation, experience analyses need to clearly identify these cases, how the benefit payment is treated in the data and what the implicit claim duration impact to allow.

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).

Benefit Period Expiry

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

Experience analyses need to carefully distinguish between actual recovery (reflected in claim termination rates) and benefit term expiry (which should not).

1.1.7 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;
- Change in data definitions and processes by cedents over time;
- Additional notification process with the cedant;
- Whether claims that have reinsurer involvement may have different experience;
- Reinsurers may be able to 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 (these items can materially impact propensity to claim or remain on claim);
- Classification of re-opens relative to new claims may differ to the cedant's method.

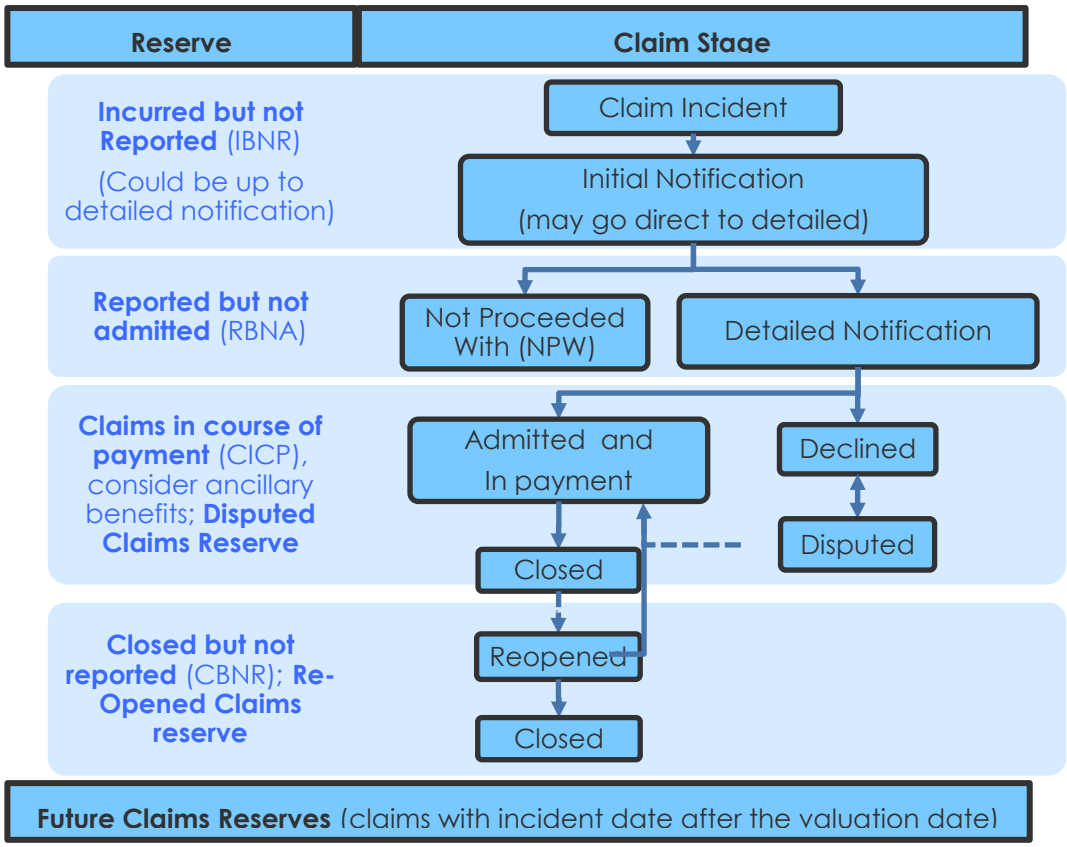
1.2 Reserving across the claim lifecycle

1.2.1 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 or gaps.

The Member may wish to ensure that the actuarial reserving approaches align with, and are consistent with, provisions separately included in the accounting systems (e.g. provisions for accrued payments due or pending, reinsurance recoveries, etc).

Figure 2: Claims process



1.2.2 Incurred But Not Reported (IBNR) reserves

Prior to receiving sufficient information and forming a preliminary claims assessment, 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 or sufficiently) notified. This reserve could be calibrated to allow for all claims before the preliminary assessment.

A decision needs to be made as to the point at which an RBNA reserve (see below) is raised and the claims exposure ceases to be reflected in the IBNR and is included in the RBNA. This may be at the initial notification stage or only when a preliminary assessment has been made. The IBNR calculation needs to be consistent with this decision.

It is noted that IBNR reserves would normally include provision for future claims payments, third party costs (e.g. medical assessment costs, legal costs), premium waiver costs and internal claims management costs.

1.2.3 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, preliminary admit or decline. The calibration period would typically not overlap the period covered by the IBNR. Consideration could be given for potentially different decline rates for earlier vs later notified claims in the RBNA.

The RBNA calculation approach also needs to be 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. The claim duration assumed may be more approximate per claim than used for the CICP given the lack of information available.

Special consideration needs to be given to RBNA claims where the valuation date is after the end of the waiting period. The Member 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 what stage of claims assessment has yet taken place.

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

As for IBNR, RBNA reserves would normally include provision for future claims payments, third party costs (e.g. medical assessment costs, legal costs), premium waiver costs and internal claims management costs.

1.2.4 Claims In Course of Payment (CICP) reserves

Admitted and in payment

CICP reserves are held in respect of the expected future claims cost for those claims that are admitted into payment (or initial payments are being paid pending further assessment). 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.

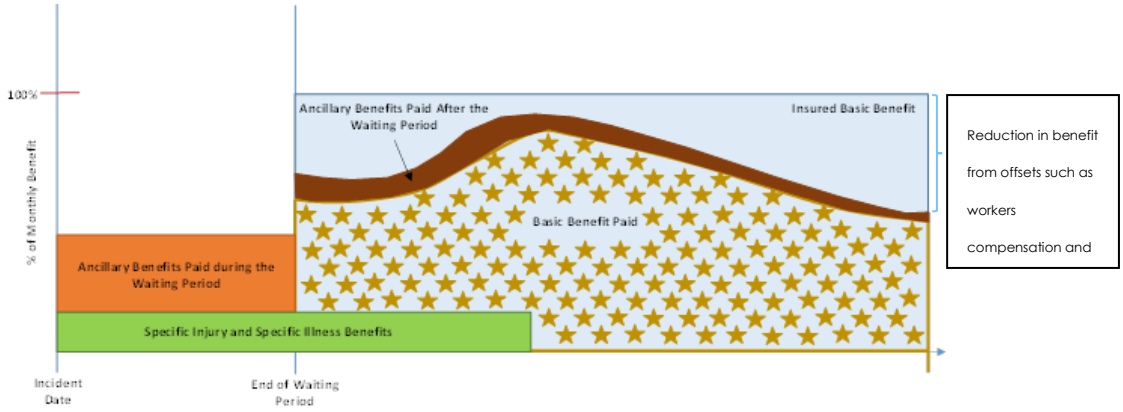
For larger portfolios, the CICP usually comprises a projection of expected future claim payments. The projected claim payments may allow for:

- Partial payments – some claimants may be receiving partial benefits as they have partially returned to work (and are earning some income). In other instances, claimants may not receive the full benefit amount e.g. if their combined insurances result in a higher replacement ratio than that allowed under the policy, or adjustments may apply due to some income offsets to the benefit payments. Some of these may change over time, for example as sources of offset income decline or as the claimant progressively returns to part-time work or relapses to full disability.

- 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 for IBNR/RBNA, this would normally include provision for future third party costs (e.g. medical assessment costs, legal costs), and internal claims management costs. These two costs types are usually separately assessed and reserved for, and may have different patterns of incidence over time.
- 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 or gaps. Due to the high number of different ancillary benefits, this can be a common source of reserving inaccuracy. Ideally list all possible benefit outgo types and decide on how each will be treated (especially where the ancillary benefit replaces the normal monthly benefits);
  - 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 bed confinement benefits, trauma recovery benefit, specific illness benefit, specific injury benefit, and accident option. See Appendix 2 for definitions of these ancillary benefits.

Figure 3: Components of the claims cost



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Disputed claims reserves

These reserves relate to declined claims that have been disputed and which may convert to (re)admitted claims in the future.

Reserves might be based on a statistical approach based on analysis of past experience, or for smaller portfolios could be estimated for each claim based on the merits of the case, and/or for large single cases 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 without allowance for trend changes.

1.2.5 Reopened claims and Closed But Not Reported (CBNR) reserves

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).

It is noted that consistent treatment between closing claims and re-opening reserves could avoid double counting.

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).

1.2.6 Other reserves

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 could need 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 would typically be consistent with the calculation of the IBNR reserves.

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. Note previous observations above as to consistency with the accounting records treatments of these amounts.

Appendix 2 – Examples of ancillary benefits

Type	Description
Bed Confinement Benefit [1]	"If you are totally disabled and under advice from a medical practitioner you are confined to bed for at least three consecutive days during the waiting period and a medical practitioner certifies that the continuous care of a registered nurse is required, we will pay you 1/30th of the Total Disability Benefit for each day you continue to qualify for this benefit, for a maximum of 90 days or until the end of the waiting period, whichever occurs first."
Trauma recovery benefit	An additional benefit of a set number of months of monthly sum insured triggered by 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 2014-2018 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[2]	"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 2014-2018 table has 1-day accident rates in the incidence rate table and termination table, and Day 1 and Day 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 2014-2018 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.

END OF TECHNICAL PAPER

[2] Example benefit wording taken from a PDS

DOCUMENT CONTROL

Version	**Title of Document**	**Name of Approving Council or Committee**	**Date of Approval**	**Date of Publication**
1.0	Technical Paper: Analysing Disability Income Experience and Setting Best Estimate Assumptions	Professional Practice Committee	September 2021	September 2021
2.0	Technical Paper: Analysing Disability Income Experience and Setting Best Estimate Assumptions	Professional Practice Committee	October 2026	October 2026