
**Technical Paper: Analysing Lump Sum Experience and Setting Best Estimate Assumptions
October 2026**

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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. It does not represent a Professional Standard or Practice Guideline of the Actuaries Institute.

This TP discusses considerations and approaches relating specifically to Lump Sum (LS) products, including Death, Terminal Illness (TI), Trauma and Total and Permanent Disablement (TPD). 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 LS 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 first version of this TP. This TP endeavours not to repeat the content of the Technical Paper: 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

LS products refer to products where a lump sum is paid on Death, TI, Trauma or TPD. TPD and Trauma products in particular are complex products subject to considerable experience variability and uncertainty in future experience. Experience can be impacted by environmental factors including economic, medical and societal trends which may show significant variability over time.

For retail business, an Australian retail industry standard lump sum table is generally updated and published every 4-5 years. At the time of writing, the most recent table released is the Australian Lump Sum (ALS) 2019 - 2023 table. In addition, the Council of Australian Life Insurers (CALI) publishes an annual experience investigation report into retail lump sum experience, highlighting a number of factors typically considered when analysing retail LS experience. At the time of writing, there are no regular industry studies covering group LS 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 and studies 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 material 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 insurer practitioners regarding LS 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 and group business.

LS 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 LS assumptions are set and reviewed by a Member.

1.5. Reasonable judgement

Whilst this TP suggests matters for consideration when analysing LS 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 lump sum products and the market

As noted in Section 1, LS 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 LS 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, terms and interactions. The key benefits (including core and ancillary benefits) and how they interact to affect claims experience. For example, whether a LS benefit is standalone or a rider accelerating the Death benefit, and the qualification period for the Death benefit to be payable on Terminal Illness;

- 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;
- Multi-tiered definitions and benefit interactions. For example, where a policyholder holds both Disability Income (DI) and TPD cover, TPD experience may be affected by the conditions under which the DI benefit is payable and whether the two benefits overlap;
- Data systems and availability. Reliable claims data aims to be complete, consistent, and accurate. How claims process information is recorded across the insurer's administration, claims management and accounting systems, and consequent impact on the data available for analysis; and
- External factors and forward-looking adjustments. How external events, such as pandemics, may distort historic experience, and whether any such distortion is likely to persist into the projection period when setting assumptions.

Quality data is critical to soundly assess experience of LS 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 leading insurers have limited 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. occupation categories, health and lifestyle); 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 industry experience results published by CALI, there still remains considerable uncertainty in LS assumption setting due to limited and sometimes incomplete claims data (e.g. not all data fields appropriately and consistently captured), complex product designs with optionality, and interactions with evolving socioeconomic environment

Members may wish to take care when setting assumptions at a point in time. At the time of an assumption's initial implementation, there might be limited exposure to claims for longer policy durations, but as a subset of business matures, exposures might change and previously immaterial assumptions might become significant. The need to apply actuarial judgement in these scenarios becomes more relevant.

In considering uncertainty it is helpful to consider:

- Levels of experience;
- Trends in experience;
- Drivers and risk factors behind experience e (e.g. notification delays for different LS benefit types);
- 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).

The objective is usually to obtain from the data the most relevant information to inform the selection of future assumptions.

3. Data considerations and validation

3.1. Data sources

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

- The insurer's claims data (may be in the form of payments data, regular census snapshots or a combination of both) containing:
 - Incurred date of claim event, notification of claim, cause of claim, and benefit type;
 - Decision status of claim (e.g. Approved, Declined, Pending) and reason for status;
 - Amount paid, and sum insured at event date; and
 - Identification details including life number, policy number, and claim number.
- Exposure data (may be seriatim or aggregated across time);
- Industry studies and/or incidence rate tables (e.g. ALS tables);
- Mapping tables or data dictionaries; and
- General ledger / accounts.

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 LS data and LS experience investigations due to the complexities of the product. These include:

- Policyholders may hold multiple benefits that interact meaning the benefit amount paid could vary at different points on time;
- Some products have tiered definitions which payout different benefit amounts depending on what conditions are met; 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 considered for LS business include:

- Life insureds with multiple policies have a unique ID which links them, and that other demographic characteristics (e.g. DOB) are consistent; and

- There has been a reduction in Death sum insured when policyholders claim on either TPD or Trauma benefits. This applies for policies where TPD and/or Trauma are sold as rider Benefits.
- Retail life insurance can either be owned by the individual policyholder ('Ordinary') or by the trustee of a superannuation fund ('Super'). Retail life policies also allow for 'Super-linking' where components of TPD or DI benefits are held within Ordinary and Super simultaneously. Super-linked policies have an indicator to identify which policies are inside super vs outside of super. The ownership structure determines the regulatory framework and conditions under which benefits are payable.

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 LS 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 LS 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 way internal drivers are managed. For example, a key 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 mortality and/or morbidity experience by policy duration.

Other forms of selection may also influence the claims experience. For example, Trauma products that offer cover for early-stage cancers may be more attractive to individuals with known risk indicators or recent symptoms, leading to a form of pre-claim selection not easily identifiable during underwriting. TPD own occupation definition may be selected by individuals with underlying health concerns, who foresee potential difficulty remaining in their field. Data on early symptom disclosures or family history may be captured in underwriting rules engine systems, and incomplete data linkage infrastructure may limit the insurer's capacity to identify and monitor this type of behavioural selection.

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 will likely impact claims experience. Several examples are included below:

- A targeted initiative by the claims team to resolve aged TPD claims or streamline Trauma claim assessments may result in a temporary improvement in claim assessment times and an apparent drop in non-admitted or withdrawn claims. However, such improvements may not reflect underlying changes in mortality and/or morbidity and may not be sustainable in future periods. Members may wish to distinguish between genuine shifts in risk experience and those one-off changes;
- Changes to claims philosophy, such as tighter eligibility reviews, updated claim definitions, and increased use of specialist assessments may also affect claim experience. For example, the introduction of stricter medical evidence requirements for Trauma claims may reduce the acceptance of early-stage cases. The requirement for objective functional impairment evidence for mental health-related TPD claims may reduce approval rates for claims based solely on self-reported symptoms. While these changes may lead to more favourable experience in the short term, it is important to consider whether these impacts are enduring and whether new patterns, such as increased disputes or delayed resubmissions, may emerge over time; and
- Other changes may also be relevant to consider, e.g. changes in operational procedures, key personnel or outsourced provider changes.

4.2. External drivers affecting claims experience

Claims experience can be influenced by a range of 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 experience if it leads to increased incidence. 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 important causes of claims, particularly mental health and wellbeing. These factors may be reflected in rulings for fairness by the Australian Financial Complaints Authority (AFCA).

Members may consider 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 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

Traditional approaches, such as comparing simple multi-year averages or using aggregated incidence may obscure important drivers of experience or lead to delayed recognition of emerging shifts. Members could consider what analysis may be conducted using more advanced analytical techniques to reduce uncertainty in assumption setting.

For example, generalised linear models can be used to simultaneously account for multiple risk factors, while allowing for trend and step-change detection across different cohorts. These models can assist in identifying whether observed changes are gradual trends, temporary one-off changes, or recurring patterns. They also support hypothesis testing, credibility analysis, and scenario modelling, all of which contribute to more robust actuarial judgement. Other methodologies such as those set out in Appendix 2 of the TP Framework for Setting Life Insurance Best Estimate Assumptions may be considered depending on the complexity of the portfolio and the nature of the emerging trends.

However, while these techniques can enhance analytical capability, their applications call for professional care and judgement. Members may wish to ensure that:

- Results are reviewed critically and not relied upon in isolation.
- Findings are validated against broader business context, operational practices, and claims management procedures.
- A judgement overlay is applied to account for known data limitations, evolving external drivers, and emerging risks that may not yet be fully quantifiable.

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. It also outlines alternative analytical approaches to the traditional methods of multi-year aggregated incidence rate analysis. These modern techniques allow Members to distinguish genuine risk trends from volatility, process artefacts, or environmental noise.

4.4. Credibility and statistical 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 LS blocks of business may have sufficient credibility to apply analytical/statistical techniques to incidence analysis.

LS products often involve many product variations and rating factors. In some cases, assumptions may also vary by cause of claim, particularly for TPD and Trauma. If experience is deemed sufficiently credible to warrant a change in assumptions, careful consideration may be given to how this change is applied across product categories, rating factors, and causes of claim especially since many individual cells will have limited data and low credibility. For example, a specific cell might be: male, age 50–54, white collar, non-smoker, \$500k sum insured, Trauma product, with claims related to cardiovascular events. The process of cascading assumption changes may be informed by the key drivers of experience shifts within the portfolio, while avoiding disproportionate or unsupported changes to low-credibility segments.

While statistical modelling and advanced analytics can enhance the accuracy and responsiveness of assumptions, a balance of quantitative analysis and professional judgement 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 LS products are 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 longer-term view when setting assumptions will minimise short term statistical variability, and where analysed, yield insight about longer term cycles and underlying trends. A shorter-term view may give more insights into the impact of recent changes in product and claims management practices on claims experience.

Consideration may also be given to the timing and ordering of Incurred But Not Reported (IBNR) and Reported But Not Admitted (RBNA) 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 that Members may wish to consider are included below.

5.2.1. Level of study

Experience studies can be conducted at different levels including benefit, policy or life insured level. The choice will likely depend on the availability of information and how the information is intended to be used. Generally, the level at which the study takes place would align with the approach to modelling (e.g. if actuarial model projections are at a policy level, then the study would likely take place at a policy level). However, there may be cases when the approach to modelling differs from how the experience study has been conducted. For example, the experience study may be conducted at a per life level, but the actuarial projection system models at a per policy level. Members may wish to consider whether the derived per life incidence rate is appropriate when applied at a policy level, or whether any adjustments may be needed to either the incidence basis or the modelling approach.

5.2.2. Multi-benefit policies

Retail LS products sold in Australia can contain a combination of benefits (Death/TI, TPD and Trauma). Typically TPD and Trauma would be riders to Death, and Trauma would be a rider to TPD. It is common for Death to have the larger sum insured, followed by TPD and then Trauma. When a policyholder claims on a rider, it generally reduces the cover of the other benefits in the policy. Appendix 1 provides an example of how a multi-benefit policy could be structured.

When undertaking an experience study, it is common practice to set the basis differently depending on whether a benefit has a rider attached or not. Consideration may then be given to how these policies are modelled. When policies are not modelled at this level of granularity, Members may wish to consider whether the incidence rates applied may potentially overstate or understate the claims basis. For example, assume that Death Only incidence is higher than Death with Rider benefits. If the policy is modelled as one Death policy rather than splitting it into the Death Only and Death with Rider component, then the incidence rate on the Death with Rider component may be overstated.

Similar considerations may apply to severity-based Trauma, where different tiers of the total benefit amount are exposed to different risks.

5.2.3. 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 similar consideration to that given to multi-benefit policies as effectively it operates in a similar way (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 which is generally the case for TPD.

5.2.4. Additional benefits

Many insurers in Australia provide accidental Death cover at no cost while a policy is being underwritten. Members may wish to consider whether these claims are included in the experience study, and whether they wish to model them.

Trauma products sold in Australia can include child critical illness benefits. These are generally tracked as separate benefits within a policy with separate life insured details provided. Members may wish to consider whether they are be treated as a standard Trauma benefit in the experience study and whether they are being modelled.

5.2.5. TPD payments

In some circumstances, more notably in group insurance, TPD payments may be paid in instalments rather than as a single lump sum payment. In these cases, Members may wish to consider the likelihood of the claimant receiving each payment by analysing the termination experience between payment dates. Consideration may then be given to how these assumptions are used in modelling the business, particularly where a simplification is applied to model the payment as a lump sum payment rather than in instalments.

5.2.6. Group considerations

Group insurance experience data in Australia typically lack the level of granularity required to perform a seriatim decrement study, due to limitations in membership data quality. Standard practice is therefore to aggregate the data to fund level, perform the experience study on this basis, set assumptions using aggregate loss ratios, and model the business accordingly.

When setting assumptions for group business, consideration may be given to the time periods chosen for analysis. This is particularly important on TPD, where recent periods may carry a significant IBNR component that reduces the credibility and reliability of observed loss ratios. The extent of IBNR in the chosen period should be assessed, and greater weight may be given to more fully developed periods.

Where products or premium rates have changed over the historic period, Members should consider whether the experience needs to be adjusted or rescaled to a consistent premium basis before drawing conclusions. Similarly, any differences between the premium and product basis underlying the historic analysis and the basis used for future modelling should be identified, with assumptions adjusted as necessary to ensure consistency.

5.3. Quantification of individual policy drivers

The standard analysis variables common to most investigations are related to policy characteristics such as:

- Age;
- Gender;
- 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 LS that may be considered, with the product/benefit type that the factors are most likely relevant for shaded in the table below, noting it may be relevant for other benefit 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	
		Death	Trauma	TPD	Death	TPD
Multi-benefit status	Whether a policy contains multiple benefits (e.g. TPD rider on Death policy) or is sold as a standalone policy.					
Disability definition	The definition of disability applicable (e.g. Own Occupation, Any Occupation).					
Waiting period	The time following the incident of the claim required to pass before payment of benefits begins.					
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.					
Tier definition	The group of Trauma conditions or risks within each tier for severity-based Trauma insurance.					

Factor	Description	Retail			Group	
		Death	Trauma	TPD	Death	TPD
Mortality improvements	Rate at which overall population or insured mortality is changing, which can be subject to age-period-cohort effects.					
Medical advancements	How medical advances including diagnostic technology may impact mortality rates as well as diagnosis of Trauma conditions.					
Climate change	Impact of climate change on mortality and incidence of illness.					
IP policy status	Whether the TPD/Trauma policyholder also holds an IP policy, and whether the policyholder has successfully claimed on the IP policy.					
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.					

Factor	Description	Retail			Group	
		Death	Trauma	TPD	Death	TPD
Group cover type	Voluntary vs default. Policyholders with voluntary cover might have different experience to those with default cover.					
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 variables that may warrant consideration include: cancellable vs. non-cancellable policies, level of claims indexation, extent of financial underwriting, and geographic location of the policyholder (postcode, state, or city/regional).

Additional data collected at underwriting or during claim assessment and management, such as biopsychosocial data, lawyer involvement, disputed claims, or changes in underwriting or claims approaches, may also be investigated to help understand experience, even where such data does not form part of formal rating factors for pricing or the actuarial projection model.

Not all of the above factors will be material for all purposes. Members should assess which drivers, if separately quantified, would materially impact the result, noting that the relative importance of each factor may differ by application. For example, the liability assessment of a current book of business may place different weight on certain drivers than pricing for an unknown future mix.

Relevant analytical tools, as discussed in previous sections, may assist in objectively identifying key experience drivers. Where gaps in data are identified, Members may wish to 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 LS assumption setting

6.1. Sources of uncertainty

There are different sources of uncertainty underlying future LS 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 medical advancements such as multi-cancer early detection (MCED) tests which are screening tools which can detect multiple types of cancer from a single blood sample and have the potential to increase rates of diagnosis of cancer.

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. Economic cycle

Economic conditions may influence TPD claims experience as the incentive to lodge 'grey area'/'borderline' claims may vary with prevailing economic circumstances. Changes such as unemployment or inflationary shocks, for example, can be widespread or affect certain portfolio segments more than others. In addition, the direction, magnitude, and timing of potential impacts are likely to be unknown. Input from subject matter experts such as claims may be useful to assess the relationship between the economic environment and TPD claims experience. Furthermore, the degree to which macroeconomic conditions in the data period will persist in the future and the implication on the range of outcomes for claims experience may also be an area of consideration.

6.1.3. Credibility approaches and cohort effects

Consideration may be given to the extent that the credibility approach used to weight between a company's internal and external claims experience may impact the overall level of best estimate assumption setting. In addition, when reviewing experience based on more granular rating factors, Members may wish to consider the credibility of the claims experience at that level of granularity before deciding whether to incorporate any additional shape adjustments in the best estimate assumptions. Credibility approach may also differ depending on whether the study is taking place based on a counts vs amounts basis.

The non-independence of assumption parameters and cohort effects in claims incidence are sources of uncertainty. For example, the level and types of claims incidence for a particular benefit type may influence claims incidence for another benefit type. For a cohort of policyholders, the change in level of incidence over time (e.g. mortality improvements) may differ compared to a different cohort of policyholders.

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 which may not have appeared in historic experience data and which Members could consider in their best estimate assumptions include:

- Recent/future changes in product design and/or definitions with consequently 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 LS products which have long coverage periods. Claims experience can take a while before it emerges due to delays in claims reporting, and likelihood of claims to incur in later years. 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 long-tail LS benefits may include a larger component related to uncertainty than short-tail benefits. This may be particularly apparent for mortality and morbidity assumptions where there is a combination of compounding effect of low exposure early on and low credibility of experience at later stages compounded to elevate uncertainty, for example where there are long reporting delays for a claim.

6.1.5. Incurred But Not Reported (IBNR)

IBNR reserves are policy liabilities for the future payment of claims that have been incurred but have not yet been reported to the insurer. For group and, to a lesser extent, retail insurance, the IBNR reserves are often a large component of the policy liabilities or past claim costs and are therefore material for assumption setting. This is particularly true for TPD which tends to experience longer claim reporting lags.

When setting best estimate assumptions, Members may wish to consider the potential variability in historic experience that could arise due to the uncertainty associated with the IBNR. For group insurance in particular, when analysing historical loss ratios, Members may consider applying more weight towards periods that are more fully developed (i.e. less IBNR) or may potentially exclude periods that are entirely reliant on IBNR.

In determining the IBNR, consideration may be given to whether changes in historical claims experience reporting reflects a change in the claim notification patterns vs a change in the ultimate level of claims.

There are a range of techniques available to use for determining the IBNR reserves. More detail on techniques can be found in the IBNR Technical Paper.

6.1.6. Asymmetry in the claims distribution

Optionality inherent in LS products skews the distribution of claims cost outcomes due to the changing attractiveness of various product options in unknowable future economic and social environments.

Examples of optionality that may skew the claims distribution include:

- Changes in employment status that affects TPD eligibility under own/any occupation definitions;
- Earlier diagnoses and the discovery of more minor diseases;
- Automatic sum insured indexation impacting claim size over time;
- Lifestyle and other options outside of the insurance product; and
- Future economic conditions impacting the relative value of the customer's product and other options.

For products with significant optionality, there is likely to be substantial uncertainty around the extent of asymmetry in future claims distributions over the periods to which the assumptions relate.

6.1.7. Management Actions

When allowing for uncertainty in best estimate assumptions, it could be reasonable to consider assumptions related to probable management actions, consequential premium rate changes or claims management practices. This would give rise to consideration of how to model the value of management actions in respect of factors such as premium re-rating and 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 allowances could be combined with consideration of assumptions related to possible consequences 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 rates increases are likely delayed and/or capped compared with the range of outcomes arising from uncertainty crystallising.

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 6.1. 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 but not limited to:

- Multi-benefit policies, particularly where there are multiple benefits for similar conditions;
 - For example, a Death policy with Trauma and/or TPD benefits can pay out benefits to a policyholder at 3 different points in time depending on how the benefits are structured. The Member may consider an aggregated view of experience to more appropriately capture the interaction among the benefits.
- Claim causes where assessment relies more heavily on clinical judgement and functional capacity evaluation (e.g. mental health conditions);
 - These causes are dependent on the insurer's claim assessment capability and philosophy. These aspects may be affected by changing customer expectations, market practice, or staff capabilities. Changes in the insurer's claims approach may widen the range of plausible claims experience outcomes.
- Medical definitions which may change over time;
 - Conditions covered under Trauma policies are anchored to specific clinical criteria that may become obsolete or superseded by advances in diagnostic technology or updates to clinical classification systems.. Changes in clinical criteria can expose the insurer to claims where no material insurable loss has occurred. For example, the introduction of high-sensitivity troponin assays changed how heart attacks are assessed.

- Products with more optionality; 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 LS 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.

At the time of writing this TP, there has been a significant increase in claims cost for TPD benefits in Australia. Some of this is attributable to broader societal trends, including changing community attitudes to disability and mental health, and the changing nature of work. This means that certain products that were originally designed to respond to predominantly physical causes of disability, where permanency was more readily established, may not adequately reflect the current claims environment, where conditions such as mental illness are more prevalent and the assessment of permanency is inherently more complex.

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

Members may 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 important to long term sustainability of LS products.

Some examples where Members may need to communicate uncertainty around LS assumption setting are as follows:

- TPD & Trauma experience is dependent on supporting assumptions such as IBNR & RBNA assumptions. The Member may consider and communicate on the degree to which these assumptions change the view of experience and prevailing trends.

- TPD & Trauma experience is influenced by the socio-economic environment more prominently than Death experience. Shocks such as economic fluctuations or disease screening programs may change policyholder behaviour and impact claims experience. Trends such as changing societal attitudes towards certain claim causes (e.g. mental health) can lead to longer term impacts on claims. The impact on experience may be compounded by the product design, particularly when the benefit levels are high. The Member may consider and communicate on the degree to which historic and anticipated socio-economic changes may influence experience.

7. Validating, 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 mortality and morbidity rates than non-smokers across all ages; and
 - Reporting delays for Death, Trauma and TPD can vary; however, generally Death has the shortest delay period, followed by Trauma due to requiring diagnosis, then TPD which requires medical evidence and proof of incapacity
- Spot checks – treatment of individual policies in exposure, expected and actual mortality and morbidity 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 factors and decline adjustments on Reported But Not Admitted (RBNA) claims.

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 Example: Multi-benefit policies

This section considers splitting exposure for policies with accelerating LS cover. This is useful when exposure is modelled using seriatim data with different incidence rates for standalone and rider exposures. In this example, the policyholder has a benefit amount of \$500,000 for Death, \$400,000 for TPD rider, and \$100,000 for Trauma rider cover. The Death exposure may then be split into the following records:

- \$100,000 of Death with TPD and Trauma rider;
- \$300,000 of Death with TPD rider; and
- \$100,000 of standalone Death cover.

The total amounts exposure is \$500,000 for Death cover. This logic can also be applied to the TPD exposure which is split into the following records:

- \$100,000 of TPD with Death & Trauma rider; and
- \$300,000 of TPD with Death rider.

The total exposure amount is \$400,000 for TPD cover.

END OF TECHNICAL PAPER

DOCUMENT CONTROL

Version	Title of Document	Name of Approving Council or Committee	Date of Approval	Date of Publication
1.0	Technical Paper: Analysing Lumpsum Experience and Setting Best Estimate Assumptions	Professional Practice Committee	October 2026	October 2026