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Health Insurance Professional Case Study - From Optimism to Prudence

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Contents

1. Background & Overview
2. Relevant APS/GN
3. General Actuarial Principles
4. Approach towards handling the scenario
5. Stakeholder Management
6. Other Aspects

1. Background & Overview
2. Relevant APS/GN
3. General Actuarial Principles
4. Approach towards handling the scenario
5. Stakeholder Management
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From Optimism to Prudence

Case Study: Background

- We are recently designated as the Appointed Actuary at a mid-sized standalone health insurance company
- Discovered that previous year's reserving assumptions were very optimistic, leading to low level of reserves.
- Revised computed assumptions resulting in considerably higher liabilities, impacting profits.
- Senior management expresses concern over the financial implications of the updated reserves.
- Case highlights the need to apply actuarial judgment, adhere to regulatory compliance, and address stakeholder's concerns.



Key Aspects

Reserving

- Reserves should consider all obligations - IBNR, IBNER, PDR, etc.
- Required to account for uncertainties through MAD
- Directly affects the solvency ratio.

Stakeholder Management

- AA must explain technical decisions in a way that aligns with business understanding
- Communicate the long-term benefits of prudent reserving, even if short-term profits are impacted.
- The Appointed Actuary must maintain objectivity despite internal pressures.

Key aspects

Compliance

- Compliance with regulations:
 - ✓ IRDAI (Actuarial, Finance and Investment Functions of Insurers) Regulations, 2024
 - ✓ Master Circular on Submission of Returns, 2024 along with annexures
- Must follow APS 21, APS 33, APS 34 and PCS issued by the IAI.

1. Background & Overview
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3. General Actuarial Principles
4. Approach towards handling the scenario
5. Stakeholder Management
6. Other Aspects

APS 21: Appointed Actuary and General Insurance, Health Insurance or Reinsurance Business



APS 21



Reference	Context	Description
Section 2 & 5	Duties and Obligations	• The essence of the profession lies in upholding its standards, technical and ethical, in the public interest. • The Appointed Actuary shall ensure that the actuarial principles have been used in the determination of liabilities

APS 21



Reference	Context	Description
Section 8	Actuarial Investigations	• The AA should be satisfied as far as possible that the data is accurate, reliable and consistent. • The AA should consider sensitivity of key assumptions. • Value placed on the liabilities must make provision for claim expenses. • The AA is required to certify the adequacy of the IBNR and IBNER claims reserves including other reserves in the solvency statement.

APS 21

Reference	Context	Description
Section 9	Written Reports	• Requires documentation to Board of Directors of the results and implications of any valuation carried out for statutory purposes. • Emphasize on the true financial soundness of the insurer. • Aligns with APS and other GN while computing the reserves and preparing actuarial reports



APS 33: Peer Review of Appointed Actuary's work in - General and Health Insurance / Reinsurance



APS 33



Reference	Context	Description
Section 10 & 13-16	Mandatory Requirement	• Peer review is another plausible method for actuaries to maintain the quality of the work. • Provides a safeguard against optimistic or biased assumptions through independent validation • Requires documentation of peer review findings and communication with stakeholders. • Reinforces professional accountability and compliance.

APS 34: General Actuarial Practice as per para 4.7 of Principles and Procedure for issuance of Guidance Note/ Actuarial Practice Standard.



APS 34



Reference	Context	Description
Section 1	Applicability	• This APS provides guidance to actuaries including the wider actuarial team when performing actuarial services • The actuary should exercise reasonable judgement in applying the APS taking into account the spirit and intent. • Careful consideration of language in the APS is critical.

APS 34



Reference	Context	Description
Section 2.1 - 2.9	Data & Assumptions	Actuaries must assess the appropriateness, sufficiency, and reliability of data used in their work. If data is inadequate/flawed, they should disclose limitations and consider alternative approaches.
Section 2.10 - 2.11	Model & Process Governance	- Actuaries must ensure that models used are suitable with clear documentation. - The actuary must review the results for overall reasonableness.

APS 34



Reference	Context	Description
Section 3	Communication	• Actuaries must ensure that their communication is clear, understandable, and relevant to the intended audience. • Communications should include all material assumptions, methods, and limitations, enabling users to make informed decisions based on the actuarial work. • Actuaries are responsible and accountable for communications.

1. Background & Overview
2. Relevant APS/GN
3. General Actuarial Principles
4. Approach towards handling the scenario
5. Stakeholder Management
6. Other Aspects

Initial understanding



Nature of Business

- Risk Profile
 - ✓ Mostly Short tail
 - ✓ High-frequency Low-Severity risk
 - ✓ Retail vs Group exposure
- Distribution channel
- Policy T&C
- Target Market/Business Mix -Age, geography, new/renewal etc.
- Reinsurance structure
 - ✓ Clause
 - ✓ Limits etc.

Type of Product

- Indemnity/Fixed Benefit
 - ✓ Health Indemnity
 - ✓ CI - Group Loan
 - ✓ Personal Accident
 - ✓ Hospital cash
 - ✓ Travel-Overseas Exp
- Product coverage details
- Large deals
- Rider or option
 - ✓ Annual health check-up
 - ✓ SI escalation
 - ✓ Global coverage

Initial understanding

Type of Liabilities

- Outstanding - Case to Case, Statistical Method
- IBNER & IBNR
- UPR assessment & PDR requirement
- Other Reserve/risk consideration
 - ✓ Free-Look
 - ✓ RI Clean-cut/ RI Clauses
 - ✓ Large Loss
 - ✓ Dues to other insurers
 - ✓ Foreign exchange reserve
 - ✓ Provision for bad debts

An Actuaries must follow established actuarial principles to ensure accuracy, adequacy, and appropriateness



General Actuarial Principles



Appropriate Data

- Data should be complete, consistent and accurate
- Grouping of data based on homogeneity (nature of business and claim development patterns)
- Must apply validation checks to ensure the data quality
- Data deficiency reserve (APS 34) in case of lack of credible data



Best Estimate Assumptions

- Estimate should be based on recent trends and emerging data.
- Show unbiased expectation (i.e., not very conservative or optimistic).
- Use the most realistic assumptions and an expert judgment.

General Actuarial Principles

Appropriate Methodology

- Use **actuarial methods** suitable for the nature of the liabilities (e.g., Paid chain-ladder for short-tailed).
 - ✓ As per the prescribed method in IRDAI regulation/guidelines
 - ✓ Deviations are allowed, but the actuary must justify the alternative approach and describe the chosen method clearly
 - ✓ Methods should also be suitable basis product and its T&C.



General Actuarial Principles

Principle of Prudence

Recognize that liability estimates are inherently uncertain

- Liabilities should not be underestimated.
- Prudent assumptions should be used to ensure the adequacy of reserves.
 - ✓ Include margins in key assumptions (e.g., Initial Expected Loss Ratio (IELR), claim development etc)
 - ✓ Include explicit margins for adverse deviation (MAD).
- Appropriate prudence to provide for LR, claim handling expenses and future inflation while assessing adequacy of UPR.

General Actuarial Principles



Consistency

- Methods and assumptions should be consistent over time unless a significant change in portfolio mix (new/renewal mix, cashless/reimbursement, etc.), internal & external changes, change in development pattern.



Materiality

- Focus on items and assumptions that materially affect the liabilities.
- Avoid complexity if the impact is insignificant.

General Actuarial Principles

Documentation & Disclosure

- Explain any changes from prior valuations and their impacts.
- Clear documentation of
 - ✓ Methods
 - ✓ Assumptions
 - ✓ Judgments

Compliance with standards

- Follow applicable professional standards and guidelines (e.g., IRDAI Regulations, APS21, APS33, APS 34 & PCS).
- Ensure alignment with new accounting and regulatory frameworks. (e.g. change in PED, 1/n effect)

General Actuarial Principles

Validation Checks

- Compare results against prior periods, expectations, and benchmarks
- Perform reasonableness tests to validate outputs
- Use alternative methodologies to understand variations and identify the causes of any significant discrepancies

Professional Judgement

- Apply Actuarial judgment, especially when data is limited or uncertain.
- Rely on experience and industry knowledge to set assumptions and use appropriate methodology.

Other considerations

- **Cohort-Specific Reserving** (e.g., accident year) to avoid cross-subsidization.
- **Negative Reserves:**
 - ✓ Not to assume over-provisioning
 - ✓ Prompt a reassessment of assumptions
 - ✓ IRDAI Regulation require reserve to be set minimum to 0
- **Reinsurance Review:** To establish reserve in line with treaty terms and conditions.
- **Internal & External Changes:** Consider the impact of changes in underwriting and claim management practices, policy coverages, economic conditions (medical inflation), regulatory changes, etc.

1. Background & Overview
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Key challenges



Underlying challenge

Conflict of interest with management.



Management goals

Management might be aiming to:

- Become large size company.
- Provide better returns to investors.
- Maximize profits.



Appointed Actuary duties

- Protection of all stakeholder interests.
- Abide by regulations, APS/guidance notes and actuarial principles.
- Ensuring company has adequate provisions to meet liabilities.

Experience Studies



Purpose

Performed on actual data and shows true picture.



Key points

- IBNR adjusted A/E ratios for both claim frequency and claim severity.
- Use previous set of optimistic and newly derived prudent assumptions.
- Show comparisons between both set of results.
- Analyze results on different cohorts like age band, gender, region etc.
- Movement analysis from ultimate LR to incurred LR.
- Analysis of reserve utilization over past year.



Outcome

Assist in determining the level of optimism in previous assumptions.

Possible reasons for deviation



Purpose

Get clarity on underlying reasons before finalizing the reserves.

List of possible reasons

- Poor performance of a new product than expected.
- Reach out to previous AA to understand his rationales.
- Data issues during previous valuation.
- Change in claim reporting and settlement lags.
- Changes in business mix like more higher age band policies.
- Increase in medical inflation.



Outcome

Identification of drivers that have led to change in assumptions.

Perform sensitivities



Purpose

Shows range of outcomes and gives a wider perspective.

Key points

- Recalculate liabilities with corresponding impact on profitability and company's solvency position.
- Examples of test cases - previous optimistic assumptions, newly derived BE assumptions, BE plus margins.
- Will help to understand impact due to movement in important assumptions like morbidity rate, medical inflation etc.

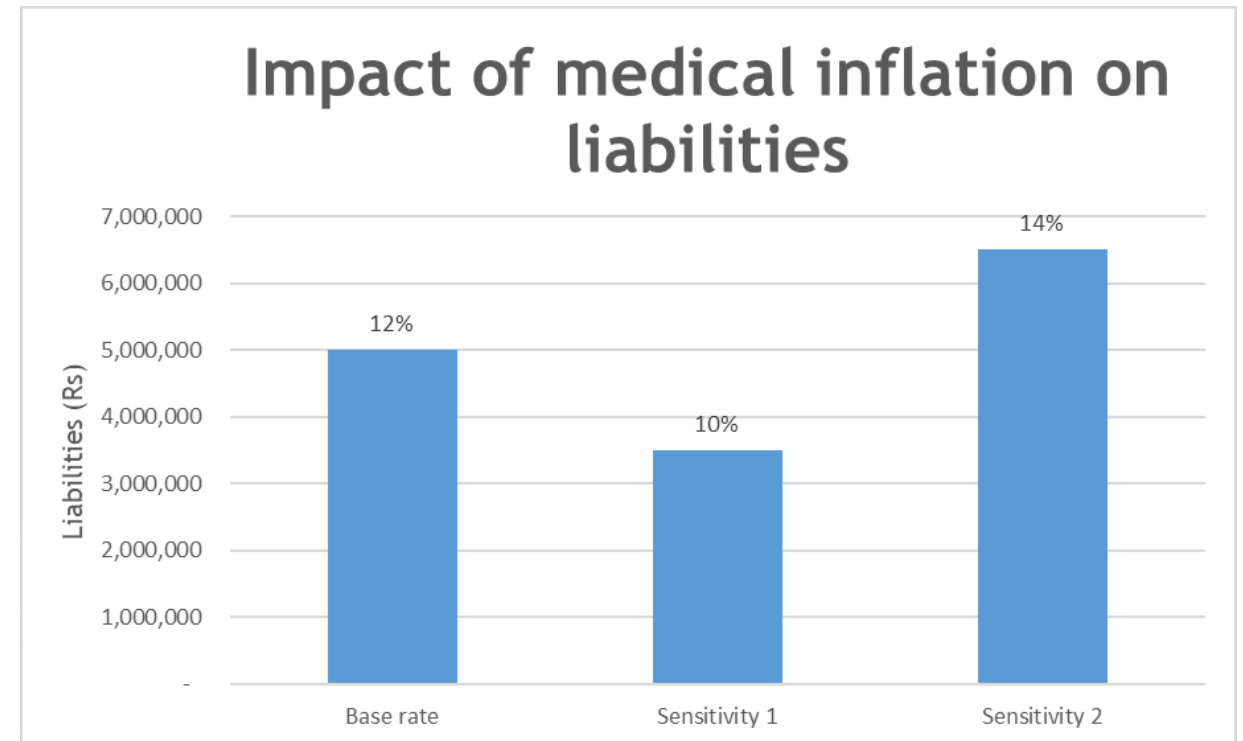


Perform sensitivities

Outcome

Helps in understanding financial impact corresponding to different sensitivities.

A graphical representation of different sensitivity outputs is always recommended.



Potential risks of under reserving

Purpose

Create awareness among stakeholders of possible consequences.

Risks involved

- Unable to meet future liabilities.
- Solvency risk
- Reputation risk.
- Misleading financial statements.

Outcome

Helps to understand the importance of long-term sustainability rather than sole focus on short term profits.



Review and results communication

Purpose

Aim is to ensure calculations done are accurate and all the relevant information is communicated to management.

Key points

- As assumptions differ from previous year and have an inherent uncertainty, peer review will be beneficial.
- Supporting view from independent reviewer will strengthen our case.
- Summarize the findings along with peer reviewer's recommendations for clear and transparent communication.

Outcome

Gives confidence to management and helps in building positive relations.

Other suggestions



Purpose

The objective of this slide is to outline more suggestions that will help in dealing with this scenario effectively.

Suggestions

- Validate with industry experience using Insurance Information Bureau (IIB) data.
- Future monitoring of key metrics like loss ratios, renewal rate etc.
- Review reinsurance arrangements.
- Detailed documentation for future reference.



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Understanding Stakeholders

Stakeholders	Areas of concern
Management & Board of Directors	Profitability & Solvency Budget vs Actual Deviation
Regulator	Solvency & Compliance Protection of policyholders' interests
Policyholder	Ability of the company to pay claims timely
Shareholders and Investors	Return on capital Compliance with Regulations
Institute of Actuaries of India	Compliance with relevant APS/GNs & PCS



Addressing the concerns

Management

Regulator

Policyholder

Investor

Institute

Key Technical Considerations

- Demonstrate reasons and requirements for the change

Regulatory Requirements

- Explain duties of an Actuary

Professional Standards

- Detailed professional standards and ethics to be followed by an Actuary

Addressing the concerns

Technical Considerations

Management

Regulator

Policyholder

Investor

Institute

Company level changes

- Business Mix and sourcing patterns
- New product
- Case reserving philosophy
- Claims settlement practices
- Reinsurance

Validation of results

- Reserve Utilisation
- FY loss ratio vs AY loss ratio
- Scenario and sensitivity tests

Comparison vs Industry

- Comparison with other players (public disclosures)
- Analysis on industry data from IIB

An Independent Reserve Review by an Independent actuary

Addressing the concerns

Regulatory Requirements

Management

Regulator

Policyholder

Investor

Institute

- Section 64V of Insurance Act states that a proper value needs to be placed on the liabilities as per the manner described in regulations.
- IRDAI (Actuarial, Finance and Investment Functions of Insurers) Reg 2024 mentions that duties of the Appointed Actuary include:
 - ✓ Certifying that the claims reserves (IBNR, IBNER, PDR) have been calculated as per actuarial principles and as per Part IV of Schedule I
 - ✓ Assessing the sufficiency and quality of data required for calculation
 - ✓ Informing the Board on reliability of these reserves

Addressing the concerns

Professional Conduct Standards (PCS)

Management

Regulator

Policyholder

Investor

Institute

Para	Description	Implication
2.1	Actuary has an obligation to serve public interest	Protect policyholders even if it impacts short-term profitability
2.2, 2.3	Actuary must act honestly, objectively and with integrity	Reserves should be based on sound actuarial judgement
4.1	Actuary must use best judgement and follow professional guidance	E.g., APS 21, APS 33, APS 34
5.1	Non-compliance with professional guidance or regulations constitutes misconduct	Holding prudent reserve is a part of regulation

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Other Aspects

Future Action Plan

Improvement in risk management and pricing

- Risk selection and segmentation
- Improvement in pricing of group policies
- Repricing of products, if warranted
- Monitoring new product experience
- Ensuring adequacy of reinsurance arrangement

Periodical monitoring of key metrics

- Loss ratios
- Claim frequency and claim severity
- Renewal rate
- Business mix
- Reporting lag and settlement lag
- Claim rejection rate

Alignment with upcoming regulatory requirements like RBC, Ind AS 117



Thank you

