All Actuaries Summit 2026
25 – 27 May 2026, Melbourne

The failure metric

Prepared by Ilan Leas

Presented to the Actuaries Institute
2026 All-Actuaries Summit
25-27 May 2026

1. The 30 second summary

This paper explores lessons from life insurance product failures.

Through ten global case studies, three key conclusions were drawn:

1. Failure in life insurance is slow and cumulative, but with a journey that is predictable. It is typically the result of small decisions compounding, driven by pushing boundaries (stretching guarantees, nudging benefits, assuming behaviours and chasing competitiveness) in an attempt to address a genuine consumer need.
2. Most failures are behavioural, structural and human. Actuaries tend to focus on assumptions and the models, but we will inevitably get these wrong. Whilst there are specific micro lessons to take away from each case study, the failures emerge where misaligned incentives creep in, we forget insurance 101 rules, we ignore distribution realities and we can't foresee future systems or how outcomes will be judged years later.
3. There are no silver bullets, perfect designs or foolproof rules we can put in place that stop failure or will stop us repeating history. But we can learn from other industries more used to failure, and we can ask sharper, more uncomfortable questions to help decision makers better assess the risks.

Ten questions were developed from the lessons and are proposed to encourage longer term thinking by decision makers when designing products. They are:

1. If volatility is inevitable, how have we incorporated the impact into the design?
2. What risks do our customers think they have transferred?
3. How have we set up this product for the successor team/s that will be managing this in the future?
4. What experiments have we run to test behaviours, both at sale and over the life of the product?
5. What specific lessons from our own past product failures or from failures we have witnessed elsewhere are explicitly embedded in the design?
6. How is this product going to be a no brainer for our customers?
7. How have we built in positive surprises to the design?
8. If we assume some information is being hidden from us in our testing, what could it be and how are we incorporating this into the design?
9. What are all the incremental changes to the product since launch and how does this cumulative upgraded design compare to the original in terms of risks?
10. If we fast forward to the balance sheet 10 years from now, where is it sensitive to changes in assumptions?

The goal can never be to eliminate failure which would be unrealistic in a particularly long-term business defined by uncertainty. But to change its shape. Smaller. Earlier. More transparent. The kind that teaches quickly, still protects customers, and ultimately strengthens the system. Few industries have the same depth of experience, the same long-term datasets and cashflows, or the same ability to observe how decisions play out over decades. This is an asset and is a source of competitive advantage if we learn from it.

2. Outline

3. The journey

The pattern is familiar and often not surprising. A product team looks for differentiation. A way to grow. A way to offer more and be more competitive: longer durations, stronger guarantees, broader coverage, new risks. Each of the case studies fell into one or another of these 'offer more' buckets. But in essence, the risk gates are opened a little wider, loosening underwriting standards to accept risks that competitors will not.

From there, the machinery starts: business cases, workshops, project plans, internal code names, testing - sometimes with "safe" or friendly customer cohorts or by asking the wrong questions ('is this a good idea?'. Actuaries are brought in to price it. Finance costs it. Risk teams ask what can go wrong and how bad it could get. What is equally important is what does *not* happen. There is no malicious intent to sell a trick. No plan to deny value to consumers. No desire to lose money or fail. If anything, there is often a strong, self-reinforcing belief that this might be a great innovation - accompanied by a galvanised, sometimes exhausting energy that tends to correlate with the ambition of the product.

Then something goes wrong.

Rarely is it visible early. Sometimes it only appears at scale. Sometimes it is triggered by a competitor's move, regulatory change, or economic shift that forces a response. Sometimes the reaction to a small observed loss triggers an over-reaction that causes a bigger one. Rarely is there a single cause; failure is usually multifactorial and it compounds. Nearly always, in hindsight, many people 'knew' at the time.

Through squinting eyes, and tilted heads, the response is often to convince ourselves to wait - perhaps it will self-correct; perhaps the concern is overstated or not material; perhaps a competitor's move will offset it.

This produces delay. It appears irrational with hindsight but there is plenty of economically rational behaviour at the individual level that aggregates into irrational outcomes for the system (short term incentives being a prime example). By the time action is unavoidable - 'crystal clear' - losses are magnified. And life insurance, with its long duration, reserving, capital,

accounting and compounding dynamics, amplifies the effect of making small changes. It's not that the problems are invisible. It is that they are acknowledged and acted upon too late.

In and amongst this delay, there is a search for the causes. Construction of a narrative, balancing defensiveness, politics, a bit of 'who could have known', irritation and maybe some bargaining of 'if only we had'. We go back to first principles but very often form opinions before the analysis is complete. Sometimes it comes down to external factors: regulation, legislation, competitors, economic shifts. Sometimes there are unforeseen trends such as changes in consumer expectations or societal shifts around mental health that no one could have predicted. There are almost inevitably some elements of behavioural finance and biases – deal fever, moral licensing, optimism, anchoring, sunk cost and hubris. Either way, we generally struggle to attribute the causes with certainty. We forget in this moment that the very nature of 'best estimate' is that it is intended that half the time we could be adversely wrong.

Blame also surfaces. It becomes tempting to point fingers even though it wasn't deliberate, but it happens particularly if operational failures are contributors. In many cases the parties who built the engine are no longer there to provide context or defend what might have at the time been the most logical step. What we are left behind with comes down to how the leadership deals with the challenge and to what extent they consider how they want everyone to feel when the recriminations end. It takes a toll - emotionally, mentally, and with productivity - because the uncertainty and instability flows through into how the team sees the impact on them personally and for the business.

Finally, we lurch. Reaction rarely takes the form of calm recalibration; it comes in degrees of swing. Retreat is generally the primary reaction. 'Do not write non-parametric risks'. The Gordon Ramsey approach in Hell's Kitchen to "shut it down". Avoid lapse exposure, optionality, behavioural uncertainty. 'No more guarantees' is the bluntest instrument. Shorten the terms. Strip the product back to something tightly controlled but changing to more objective definitions. Change advisor remuneration. Set caps, limits, market share thresholds, tighten governance for design outside of the norm. Sometimes exit the market altogether.

The playbook is unoriginal unfortunately. We forget what distinguishes life insurers where the role is to pool and absorb uncertainty that individuals cannot manage alone. We embrace the comfort and like the discipline that the lurch brings. Retreat reduces volatility - but like ignoring catering to need, it risks hollowing out our purpose and does enormous damage on the way out.

Slowly, though, we move towards change and acceptance, hardly on a straight line. Resilience, prior traumas, support, the work culture, new blood and financial stability all change the trajectory of this exercise. Time passes, wounds are licked, people forget and eventually someone comes up with an idea to widen the risk gates.

4. Why this paper?

Life insurance products have a uniquely low tolerance for failure. Unlike many financial products, mistakes cannot easily be corrected later. When products go wrong, the consequences can be severe for consumers and expensive - financially and reputationally - for insurers. The absolute worst-case outcome would be failing to pay valid claims. But there is a just as concerning next tier of harm: premiums rising far beyond expectation, policies becoming unaffordable and lapsing, guarantees becoming uncertain, or customers feeling misled. In a

sector built on long-term promises, these short-term outcomes represent a profound breach of trust.

This paper attempts to surface lessons from a series of case studies of life insurance product failures observed across different markets, all following a similar journey when you zoom out in time. Despite the long history, the industry often struggles to retain its own lessons. We tend to look at failures in other markets, or from days past, and dismiss them with limited information, telling ourselves superficially 'that would never happen here' or 'this time it's different.' Success elsewhere may attract curiosity, but failure is frequently discounted as irrelevant. Within markets, competitive instincts can make the situation worse. A subtle form of schadenfreude can appear when competitors stumble, or a tall poppy tendency to resent those who stand out.

It will be easy to read the case studies and conclude that life insurer products fail too often. That conclusion, however, ignores both the rarity of such failures and the context in which many of these decisions were originally made. Faced with similar conditions, many of us may have made similar choices. It's also important to keep perspective. The failures explored here represent a minority of the products ever sold. In the vast majority of cases, life insurance has done exactly what it was designed to do - delivering financial support to families at the most difficult moments of their lives. Ask any family that has been paid. Even viewed cynically, if a product ultimately lost money for insurers, it often meant benefits were more generous for some customers than the price charged.

The goal therefore is not to catalogue a series of car crashes, but to bring into the open some of the stories that usually circulate only informally - the kind of product lessons young actuaries hear whispered around the water cooler or when experienced practitioners reflect on earlier cycles. Within these stories are patterns, warnings, and insights that deserve wider visibility. At the same time, we should recognise the courage of the teams who attempted these innovations. The underlying consumer needs were always legitimate, and experimentation is part of progress. As the cliché suggests, if we never fail, we may not be trying hard enough.

Looking beyond the insurance sector may also offer useful perspectives. Startups, for example, operate in environments where ambiguity and the risk of failure are constant. With limited capital and short runways, they must test ideas quickly, learn from early signals, and pivot when necessary. Life insurers operate under very different conditions - long liabilities, stable cash flows, and assumption-driven profit reporting. Yet that perceived stability can also create complacency. A more useful paradigm might be to encourage more experimentation and ensure that failures occur earlier and on a smaller, more managed scale.

Using the case studies alongside lessons drawn from startup behaviour, this paper explores ways insurers (could be applied to life, general or health) might avoid similar failures; or at least detect and contain them sooner. There are no silver bullets. Every story contains nuance and incomplete information, and startups themselves are far from perfect models. But by combining historic product stories with insights from other industries, the goal of the paper is to come up with and reframe the questions we could instead ask when designing new products.

5. The micro lessons

Innovation in life insurance has often been about how far insurers are willing to go in absorbing risk on behalf of customers. The case study failures all tended to emerge when that balance was

shifted too far and consumers and insurers were left with unintended consequences, generally only observed way down the line. They all 'pushed' some boundaries to try address a genuine consumer need and it's through these individual case studies we can observe some lessons unique to all of them individually but all contributing to a common pattern.

Figure 1: Case studies

No.	Case study:	Pushed:	To address the consumer need of:
1	US Post Level Term	Premium shape	Affordability and entry friction
2	UK Long term care	Extending ages	Long-term costs for care in old age
3	Canada Term 100	Long term guarantees	Long-term death benefit protection
4	SA Trauma	Importing a design	Payments not a windfall and/or a lottery
5	Australia Consumer	Consumer led design	Simplicity, transparency, ease
6	UK Unemployment	Introducing new perils	Income shock from unemployment
7	Australia Lifetime IP	Extending durations	Income loss in retirement
8	Australia Funeral	Decreasing cover	End-of-life expenses
9	Australia Auto Accept	Increasing cover	Underinsurance
10	Tontines	Passing back the risk	Lifetime income

Following are the first five of the ten case studies, and the remainder are at the end in an Appendix. This is purely to ensure that readers get to the macro lessons as quickly as possible. The five were selected because they are most applicable to several on-sale product challenges today: premium reviewability, annuity guarantees, new disability structures and post-retirement products.

a. Case Study 1: Change premium shape

In several markets, insurers have frequently experimented with alternative premium shapes to the traditional level premiums which stayed flat over the life of the policy. South Africa introduced stepped premium structures or smoothed versions that increased by age but at the same rate each year. Australia moved to a majority age-based stepped pattern for its advised life insurance products. Term-based level premium structures were common in the US and Canada that offered a level premium for the first period and then a convertible 'jump' at the end of the term into stepped premiums thereafter. All were positioned as consumer-friendly innovations: lower premiums early on, flexibility to review cover later, and the ability to 'pay less when you need it most'. Sometimes the sales message rang with the somewhat numerical illogic perhaps that since long term life insurance policies only lasted on average 7-10 years, you might as well 'take the lower premiums when you can'.

The consumer problem being solved was affordability and entry friction. If we focus on the US product as our case study, many customers were unwilling or unable to commit to higher level premiums over the long horizon. But they equally didn't like the age premium steps that generated significant increases year to year. Hence the move to a hybrid which had level premiums for a term and conversion optionality to continue post the level term with an age based stepped structure thereafter. From the insurer's perspective, the statutory reserving requirements and ability to cater for future profits would play a significant role in why the stepped design was incorporated alongside the consumer need for continuation of cover. Pre 2000, the statutory reserving approach in the US was on a disconnected economic basis (for example, an assumption of no lapses post conversion even where economically providers may have assumed 100% would lapse at conversion). Then the regulations caught up, prices jumped and life insurers adapted by 'borrowing' from the post conversion period, incorporating profits from the post level term, which would allow more competitive premiums to be written inside

the initial term. To put in context, life insurers might price for a 2% IRR in term but once you built in the post level term period, land on an IRR of 10%.

The story here centred around the embedded sharp discontinuities - step-changes or 'cliffs' that relied heavily on behavioural assumptions. Premiums often increased by multiples of the level rate once the initial guarantee expired, particularly as policyholders aged or health deteriorated, creating strong anti-selective lapse effects. There was no data on conversion rates, nor the subsequent mortality experience which turned out to be demonstrably worse than expected due to actual lapses being lower than economically projected. The level of the jump promised could also be set higher than competitors, without any change to the conversion assumption, thereby allowing further benefit to be taken upfront. Other market forces like life settlements would further compound the problem of who remained.

As the first batch of Post Level Term 10 ran its term, a reserve strengthening became necessary given that conversion points had been tested. The same reserving increase had to be prudently applied to the longer-term products even though actual experience had not yet emerged. To increase the conversion rates, some providers had to offer significant premium reductions at the cliff, below the technical rates, or grade the increases instead of applying at a single point, trying to find that optimal intersection of lapse rates, premium volume and anti-selective effects. Customer premium rates post term would also display a worse than expected premium rate series, with the life insurers having the option to charge less than the rates communicated if behaviours emerged in line with expectations.

What went wrong or proved challenging?

In short: behavioural assumptions.

Although sold as term products and guaranteed, they underestimated how consumers would react to an 8-times price increase at the end of their terms - most policyholders left and only the poorer cohorts (2%-5%) remained but at significantly higher than expected mortality.

The experience with tweaking premium shapes highlights that affordability today cannot come at the expense of viability tomorrow. Premium jumps (and arguably all stepped patterns) may improve early sales and short-term metrics, but they create reputational and economic risk in later policy years. Even under a stable (ignoring improvements) mortality type product line, realising that some customers would receive a 100% plus increase should have been enough cause for limiting exposure. From the customers point of view, the model did not align with wanting to hold a long-term life insurance policy.

Regulatory control, always lagging, contributed to the problem due to statutory reserving not keeping pace with market developments – an unintended loophole allowed reserving credit upfront for offering the age steps in premium post the term period, despite lapse rate assumptions at the point of conversion being significantly over-optimistic. Even after the regulations caught up, to be competitive, life insurers were accelerating profits from the future to provide discounts today. All the while maintaining an optimism bias that consumers would behave in line with those assumptions at future decision points.

A memory from the past

Thus, the Amicable, one of the first mutual societies, established in 1706, allowed membership to anyone between the ages of twelve and forty-five, with the annual subscription fixed at the same rate, regardless of age…The early one-year term

assurance … also made premium rates constant irrespective of age, although the short duration of each policy - usually annual policies payable by a single premium and renewable each year - did help reduce the risk… Not until 1783 did the Royal Exchange begin to insure lives on a fully graded scale of premiums, and not until 1809 did the London Assurance base its premium rates on the age of the insured at entry.

Excerpt from Moral Hazard and the Assessment of Insurance Risk in Eighteenth-and Early-Nineteenth-Century Britain, R Pearson

b. Case Study 2: Extend age

Alongside the rise of retirement planning products in the UK, Immediate Long-Term Care (LTC) policies emerged in the late 1990s and early 2000s as a seemingly logical solution for older individuals seeking to pre-fund care costs. Unlike deferred LTC, immediate LTC products promised income or care funding starting almost immediately after purchase, typically in exchange for a single premium or a short-term premium series.

The consumer problem immediate LTC policies aimed to solve was a solution to the consumer risk of needing to fund long-term costs for care in old age without depleting personal assets. Insurance premiums would secure a guaranteed benefit if care was required within months or years. For insurers, the appeal was that premiums were large, contracts short-to-medium term, and exposure appeared manageable under assumptions of limited claim duration and controlled care costs.

However, the reality was more complex. Immediate LTC policies combined longevity, morbidity, and inflation risks in a concentrated, short-duration format. While premiums were collected upfront, claims began almost immediately, often within the first months or years. Policies were sold to older cohorts - frequently in their 70s and 80s - where health status was more uncertain, and underwriting could not fully eliminate adverse selection. Unlike deferred or regular-premium LTC products, there was no ability to adjust premiums or reduce benefits once the policy commenced. Small misestimations in claim incidence, duration, or care-cost inflation were magnified and early pricing ultimately got some of these assumptions wrong.

By the mid-2000s, insurers began to experience the full impact. Claims experience exceeded projections, particularly for high-utilisation older cohorts, and escalating care costs further amplified losses. For those who hadn't claimed, insurers had to put prices up once policies reached the end of their initial rate guarantee period – for example, after 10 years, one insurer increased premiums by c60%. Many customers couldn't top up that level of single premium or refused, ultimately leading to compensation guidance from the ombudsman where for some customers their premiums were returned with interest. The magnitude of those increases impacted confidence and ultimately led to insurers withdrawing the product from the market, while still being left with significant balance sheet strain and compensation exposure.

What went wrong or proved challenging?

In short: morbidity claims experience for a new insured pool.

Immediate LTC policies assumed that early claims would be modest and short-lived, when in fact claims emerged quickly and persisted. Investment returns also changed. The products gave a false sense of stability: early benign claims experience encouraged confidence and profit recognition, but the tail risk was accelerated and irreversible, leaving insurers exposed to rapidly crystallising losses.

On the surface, the standard list of 'what I missed' comes up. Guarantees were offered albeit for a shorter duration relative to the longevity risk before repricing could take place, there was an initial benign period where experience couldn't be credible and so profits were taken (and celebrated) and of course this was an older (perhaps more vulnerable) cohort exposed to being asked to top up a lump sum or lose their cover. And like unemployment products, immediate LTC should arguably have been viewed more like a general insurance product, where large, infrequent claims dominate experience and reserves must anticipate the tail, not just the average.

This product highlights the risks of not having the data needed to price. There wasn't information to price the insured experience of care costs at older ages, adding to the uncertainty of claims costs and inflation. One wonders if the companies who tried these products needed to sell a small amount, wait as long as it took to gather the experience, before scaling up their exposure.

A memory from the past

With consideration to age of the members being twelve to fifty-five.

Amicable Society for a Perpetual Assurance Office (1706) age limits

c. Case Study 3: Ultra long guarantees

Alongside the dominance of level term and cash-value life insurance in North America, Term 100 (or Term to Age 100) life insurance emerged as a seemingly conservative product innovation: lifetime coverage with guaranteed premiums, no investment component and no surrender values.

The core problem the product attempted to solve for consumers was the need for long-term death benefit protection. By removing surrender values typical under whole of life products, prices could be more competitive. In theory it offered insurers predictable cash flows and limited policyholder optionality. But in practice insurers implicitly took on a different and less well-understood challenge given that the premiums were set decades in advance - extreme mortality, long-term interest rates and long-term lapse risk.

Once issued, Term 100 blocks became effectively run-off businesses stretching half a century or more into the future. The Term 100 experience was also exposed to and accelerated by accounting treatment. The accounting framework forced insurers to recognise losses immediately by writing off the Deferred Acquisition Costs (DAC) once the future benefits exceeded the future premiums and once written off, there was no corresponding way to recognise improvements in assumptions should they materialise later.

In Canada, where Term 100 achieved meaningful scale, these dynamics became increasingly visible over time. As actuarial assumptions were updated, some insurers were forced to strengthen reserves materially, particularly on older vintages written in higher interest rate environments. For several carriers, Term 100 shifted from a stable protection product to a drag on earnings and capital, prompting strategic reassessments, repricing of new business, or withdrawal from the segment altogether.

What went wrong or proved challenging?

In short: ultra long-term guarantees, sometimes up to 50 years of 'unhedgable' risk.

Term 100 assumed a world of stable yields, predictable mortality, and meaningful lapse rates based on data available that reflected customer behaviours where there was a cash value. Low interest rates and sustained longevity improvements caused the shift, but neither was unique to other mortality products. The higher-than-expected policy persistency was unique though, where lapse experience ultimately shifted below long-term whole of life products in some cases, despite thinking of these products as more akin to term products.

The experience of Term 100 life insurance serves as a cautionary tale about large exposures to long-dated guarantees. Insurance is not only about meeting customer needs - it is about ensuring that risks taken today remain manageable decades into the future. In a positive sense, insurers would bear the cost of the exposure to the benefit of customers. But the story also highlights how adverse experience compounds slowly but relentlessly – at outset, the tail assumptions may have played very little part in sensitivities but as the remaining term unwound, the impact of a small change in those long-term assumptions that were locked in started to cause damage. And with policyholders able to effectively 're-underwrite' themselves before cancelling, including with better access to medical and diagnostic tools, the anti-selective lapsation effect was not predicted.

The creeping nature of the impact was akin to the cliché where 'bankruptcy happens slowly until one day it happens all at once'. The actual outcomes would emerge slowly over time where each incremental adjustment to the assumptions were not enough by itself to sound alarm bells until one-day when there was no choice but to acknowledge a major problem. At each assumption change, actuaries believed, maybe even were confident, in their 'new' best estimates. But given the long-term nature of the products, time, the danger of Day 0 present values and creep can tell another story.

A memory from the past

In 1965, aged 90 and with no heirs left, Calment signed a life estate contract on her apartment with civil law notary André-François Raffray, selling the property in exchange for a right of occupancy and a monthly revenue of 2,500 francs (€380) until her death. Raffray died on 25 December 1995, by which time Calment had received more than double the apartment's value from him, and his family had to continue making payments. She commented on the situation by saying, "in life, one sometimes makes bad deals"

Excerpt from Wikipedia, the story of Jean Calment, oldest verified person in history who lived to 122

d. Case Study 4: Import a design

Along with South Africa's claim to fame with inventing trauma came another product innovation in the late 1990's, with the introduction of severity-based trauma definitions.

The twin problem being solved was that trauma payments can be a windfall and/or a lottery. As an example of windfall, a person who has a mild heart attack and goes back to work a few days later is a very different financial outcome to a person who had a major heart attack and can't work for a long period of time. Yet under the original design, both could have received 100% of the sum insured. And as an example of lottery, different doctors might have different views on what constitutes a heart attack.

What severity-based products introduced in response to the problems were a different percentage of claim being paid depending on the financial impact and a more explicit and objective set of definitions to reduce the lottery effect. And once these two were opened, it could push further by introducing a whole range of other less frequent events because a smaller payment (sometimes 10% of the sum assured) could be paid out.

This product was tremendously successful in South Africa when it was launched. The problems were the right ones to solve. But in this author's opinion, a lot of the drivers for its success were not due only to this innovative design. The insurer who introduced the concept was simultaneously benefiting from being a new entrant, having a health insurance business at its core, changing the distribution model to a more aligned one with advisors, the first of the insurers to offer pure risk only as opposed to the predominant model of universal life and lastly, introducing alongside a new, sophisticated and rich wellness program that encouraged better behaviours and risk selection. The South African culture also encouraged consumers (and advisors) to try new things, sometimes why that market was seen as a good testing ground for new ideas.

The product was then taken to the UK (and later Australia) where a single insurer in each market launched the design unsuccessfully. Advisors in each respective market struggled to articulate to clients why it was better since the nature of the design meant that the traditional providers could point to situations where 100% was paid under their product but only a fraction for the severity-based design. And in a pool of one provider offering this product, with more work required to explain the product, what might have seemed like a competitive advantage was a disadvantage. Sales also weren't helped by pricing strategies that had a higher cost for a perceived lower payment (due to the inclusion of so many more conditions being covered) which potentially misunderstood the South African move from universal life (where investment and insurance risks were bundled) to pure risk products.

The story didn't end there because the problem being solved was the right one (linking payouts to financial impact). Years later that original UK insurer would partner with the South African provider and would relaunch this design, becoming the 3rd largest new business writer of that product in the advisor channel. In Australia a couple of other providers would experiment and include aspects of severity based (more coverage, small payouts), recognising that some aspects of the design were doing the right thing in terms of customer need and the problems to be solved.

What went wrong or proved challenging?

In short: difficulty convincing advisors to try something unique and new.

In markets like the UK and Australia, complexity hindered consumer and advisor acceptance. Severity-based trauma products turned out to be hard to explain and compare. Instead of a yes/no trigger, there were multiple payout levels, which made policy wordings longer and advice more complicated. Many advisors reported that clients prefer the certainty of a lump sum upon diagnosis - they found the idea of partial payments confusing ("Will I get enough if it's serious?"). Moreover, claims assessment could become contentious: determining the severity level introduced potential grey areas, potentially leading to disputes if an insurer classified an event at, say, 50% payout level but the claimant believed it was a 100% event.

Essentially, the UK and Australian markets gravitated towards a hybrid: traditional CI cover with a subset of "partial payments" (for things like early cancer or lesser heart attacks), rather than fully graded payouts for every condition. This was simpler to communicate. South Africa remains an outlier where consumers are more accustomed to sophisticated policy structures (perhaps due to the insurers wellness ecosystem and advisor training and distribution models). From the business perspective, severity-based CI was supposed to help control claim costs (pay less for less serious events) and thus be more profitable or allow lower premiums. However, if sales are low because people don't embrace the concept, it doesn't fulfill its promise.

The mixed results of severity-based CI products showed how innovation must be balanced with simplicity. A rational product design, even if demonstrated elsewhere, can falter if it's too complicated for consumers to understand or for advisors to confidently recommend. The success in one market shows such products can work if positioned well, but the market context, market culture and distribution support are key - success may be due to other factors rather than the product.

Is another key lesson here that innovation requires more than one insurer at the same time to build the same thing? Being first for an iPhone that can be replaced and has a small relative cost is completely different to a long tail life insurance product that you may not be able to rewrite elsewhere due to changing health. Perhaps the main lesson here is that you can't innovate alone when it comes to a product set that requires enormous confidence well into the future. And the degree of the innovation is correlated with the degree of support from other insurers, something contradicted by our natural competitive nature.

A memory from the past

While Australian offices sold a range of life and endowment policies with clear and explicitly stated returns at maturity, American insurers offered tontine products. This type of insurance was little understood by the market that had limited experience of it. The strongly conservative … [Australian] society … saw it as a form of gambling, and condemned it as such. Thus, not only did the Americans have to convince consumers of the probity and accountability of their organization, they had to educate them in the benefits of a new type of product. A key difficulty they faced was in translating their message effectively in a market that already had liberal policy conditions that provided similar but less risky outcomes. In addition, the agency-sales system introduced proved to be very costly, generating increasing expense ratios and making the American product less competitive….The experience of American insurers in Australia in this period highlighted the problems of reaching into markets in which the social and cultural nuances of country were not fully understood and the "tyranny of distance" impacted the ability to manage and control business.

Excerpt from The Pitfalls of Internationalization: The Experience of American Life Insurers in Australia, 1885–1905, M Keneley

e. Case Study 5: Customer led design

Another surprisingly common form of product failure occurs not when a design proves unsustainable, but when a product simply fails to sell at all. Many insurers have had initiatives that were carefully developed, well resourced, and well intentioned, only to launch to negligible uptake before being quietly withdrawn. Case studies considered include a retirement variable annuity sold directly to pension fund customers, a simplified mortgage protection product distributed through banks, a life insurance product offered through a health insurance channel and a bucket product combining trauma and income protection. Although these failures are often short-lived - limiting long-term financial damage - they can still represent substantial sunk development costs and lost strategic opportunity.

The case study examined here has been anonymised but began as part of a broader initiative to expand a life insurer's direct to consumer capabilities. The organisation invested heavily in consumer engagement and design thinking, using consultants, whiteboarding, workshops, testing panels, and behavioural research to understand how consumers interacted with insurance. The development process focused almost entirely on consumer needs - simplicity, transparency, clarity and ease of understanding. Temporary and more permanent events were differentiated by income and lump sum events. Setting the lump sum needed involved highlighting the areas contributing to need. Unemployment was catered for but only in terms of maintaining insurance or receiving support. Eligible family members were included. Extra expenses were considered. On paper it met all the needs underpinning life insurance, albeit this was all done in a vacuum that hadn't yet involved pricing.

And then, far into the development, the insurer's strategy shifted due to concerns raised from advisors that a direct product would undermine the established advisor network, forcing the insurer to pivot this product toward advisor distribution.

This shift exposed a second problem. The product, designed for consumers, lacked features advisors considered essential: long-term disability, own occupation definitions, trauma cover, and alignment with rating agency frameworks. To make the product viable, the insurer had to redesign it, adding these features and gradually reshaping the original consumer centric concept into something closer to a traditional advisor product. The result was a bad compromise: no longer the simple, consumer-friendly solution originally envisioned, yet still lacking the familiarity and perceived reliability of established offerings.

The new product had originally aimed to be simpler and cheaper for consumers, but after incorporating advisor required features, the economics were tight. Pricing relied on optimistic assumptions to remain slightly lower than comparable products. When launched, advisors were reluctant to recommend it due to reputational risk, preferring established products with proven track records. The price differential didn't justify the risk, particularly given the advisors were placing the risk onto their customers. In the end, fewer than ten policies were sold before the initiative was effectively abandoned.

What went wrong or proved challenging?

In short: not knowing who the customer was.

The product was designed originally focusing on the consumer as the primary decision maker. It changed to the intermediary playing the decisive role and not realising that the starting position was built on the wrong foundation. A product may achieve conceptual perfection on a whiteboard yet fail the only test that ultimately matters: whether anyone is willing to buy it. It may have been better to pull the plug when the dynamics shifted so materially.

Simplicity is sometimes also in the eye of the beholder. Financial literacy is assumed when for most people, as it turned out advisors included, the product required a re-read to not only understand the mechanics but to also contrast with other existing products in the market. Just because we say a product is simple, doesn't make it so. And most people are resistant to change to begin with.

This case study also highlights the need for truly compelling offers to shift the dial. Advisors face reputational and commercial risk when recommending unfamiliar products, and without

meaningful advantages - such as significantly lower premiums or materially better features - they or their clients have little reason to take that risk. These tolerances weren't understood and perhaps this highlights the limits to market testing or risks with not being able to get a viable product into pilot mode quickly.

A memory from the past

"The first step was to find an insurance company that would develop the 'dread disease' policy and market it. So I took the concept to Zach De Beer, then CEO of the large insurance company Southern Life. Zach thought that it was a good idea and asked me to give him some time to take my suggested policy to his actuaries to establish whether it was feasible. He came back to me a week or two later and said that, although the medical doctors and actuaries of his company believed the proposed policy to have merit, the actuaries were doubtful that its implementation would be possible, as there weren't sufficient statistics on which premiums could correctly be based.

Although I was very disappointed by this response, I didn't drop the idea...Then nearly three years later, in March 1983, two brothers, Alexander ('Don') and Bob Rowand, both active in the insurance industry in South Africa, contacted me. Soon, with an actuary from America in tow, Don came to see me .... Don explained that they had just bought a small insurance company called Crusader Life and were keen to develop a niche product..."

Excerpt from Defining Moments, by Dr Marius Barnard, who helped develop the first dread disease product covering only four conditions, in South Africa, launched in August 1983.

6. More macro

Although there are more case studies to go, and for extra credit you may choose to go to the Appendix before reading this section, we can start to delve into some of the more macro insights we might draw from the stories. And overlay the lessons the startup world, that is more used to dealing with failure. Admittedly, readers will all have their own interpretations and views, perhaps reaching different conclusions.

a. Accept turbulence

The 'failure' process itself is predictable - the realisation, the delay, the search, the blame, the lurch and finally the acceptance. One might conclude, perhaps lazily, that 'cyclicality is just inevitable'. Lessons will be forgotten from the past, and we will tell ourselves stories to convince ourselves that 'this time is different'. It's the thinking underpinning why bubbles form, going back to tulip mania or the GFC. Why 'irrational exuberance' finds its way into a system and how we drift from foundational insurance principles - the 101 stuff behind indemnity, insurable interest, risk selection – but then are surprised when volatility shows up. It's the trade-off that allows us to attempt new things and not be a slave to a bad experience. We like shiny new toys.

It's not whether the ups and downs are inevitable though, they are. Ironically, we are selling stability to the consumer. But if we take that risk away from them, the nature of long-term life insurance is that we should expect a cycle. The corollary of taking the risk away from the consumer is that insurers are assuming that risk - there will, by definition, be volatility for insurers - but the service is offered because insurers can absorb that volatility where individual consumers cannot. If anything, we are better trained than most to allow for it, even knowing we will get it wrong.

In addition to expecting it, we should also be putting in place steps to dampen the effect and still deliver confidence, trust and the promised outcomes to our customers. This also extends

to executives, who will inevitably be involved in fixing a problem incurred in a different era, to plan in advance how they will deal with it rather than figure it all out in the moment.

Life insurance may appear to have a disadvantage of being too long term, quite different to start-ups where the cycle seems far shorter. But the problem isn't that life insurance is long term. The problem is that the industry built long learning cycles on top of long liabilities. And startups don't necessarily have shorter risks - they have shorter feedback loops. They also plan for turbulence, whereas arguably life insurers plan for stability.

A reframing of our traditional actuarial practice thinking might be needed if we accept that we just can't model the long term. This is technically discomforting. Much of actuarial practice relies on long-term probability theory, on past experience, on modelling - the familiar '1-in-200'. But our models are anchored in history and change is accelerating in a way that the past can't keep up with. In a world where tax, legal, medical treatment, cultural attitudes, workforce participation, consumer expectations, new technologies or system correlations all shift materially, what confidence can we really have in answering 'how bad can this go'? Accepting this may lead us down a different path in how we cater for expected instability - the purpose of taking away risk shouldn't change, but it's with brutally honest eyes open.

b. Calling a spade

Beneath all the noise sits a very uncomfortable question: did either of the parties to a failed product, that being the consumer and the insurer, allow themselves to be misled?

We should ask what risks did consumers believe they were transferring? Most I'd hazard to guess believed they were buying immutable long-term promises. Many glossed over complexity or fine print in favour of reassurance - we all do it, signing up to contracts all the time, with a pen or by virtue of accepting conditions of a service, without understanding the implications. We should acknowledge that this doesn't absolve us as consumers. A broader bias is also likely to creep in if the assessment of what we thought we were buying or what we thought we expected is only considered years after the actual purchase, or when something has gone wrong.

On the other side of the table, what risks did insurers believe they were absorbing? Ignoring where long term guarantees were offered, was ambiguity allowed because absolute clarity may have made the new product unviable or unaffordable. Despite wanting to make long-term promises and having all the good intentions to deliver, was flexibility retained in some form to protect the broader pool if outcomes turn adverse. Essentially, we run into this centuries old trade-off between trying new things and who takes the risk, under the 101 thinking behind protecting all the other policyholders in the risk pool.

The case studies often highlighted this perception gap – insurers thought one thing, consumers thought another. Or it changed over time or got complicated where intermediaries were involved. But insurers had the higher duty of care, given their relative sophistication advantage and as the designer and issuer of these products. They didn't have to sell them. It was their responsibility to understand exactly what the consumers thought they were buying and their expectations, both at purchase time and more importantly down the line as the environment changed.

There is also an argument, given this sophistication relativity, that life insurers might have a duty to protect consumers from themselves. The case studies showed how when life insurers blindly followed the needs of the consumer, this may not have been in the best interests of those customers - the trade-off sometimes came with a cost and unintended consequences that threatened the viability of the whole product.

Startups are militant at seeking to understand their customers. The runway is short if they get this wrong. They measure pilots by learnings, not by profitability. And they are looking for this feedback loop early so they can pivot and adapt. One 'complaint' feels like it could derail everything. Life insurers have come to accept a model where we expect some people to be unhappy. Perhaps if we came at it from the assumption that the consumer will always be right, we would likewise militantly seek out what 'right' is and stay on top of how this may change over time.

c. Tether

The case studies highlighted a structural conflict emanating from the misalignment between the team who built the product and the consumer who bore the risk long after they were gone, and the various generations of teams managing the product in between. Recognising a problem 'today' arising from product development from the past would impair 'today's' profit, capital, and definitely remuneration bonuses, and so a common theme is that acting early became career-limiting even though acting later was institution damaging.

Life insurance is particularly unique, or perhaps an extreme case, in that the CEO approving a product today is, in substance, making decisions for the next CEO - perhaps three or five CEOs ahead. The longer the liability, the further out any problems can potentially be deferred. In that sense, life insurance promises will extend well beyond individual careers. Documenting upfront for future 'generations' that some degree of failure is anticipated might change the inevitable conversation and approach when the time comes.

The biggest disconnect remains how the team of today is tethered or aligned with the outcomes of 'far away tomorrow'. Startup founders and their team play the game with only upside through capital gain, not income. They also invest their own money (be it actual cash or through sweat equity). Perhaps new products could require an investment from the new product team, through salary sacrifice or foregoing bonuses, but also attach long term upside (even unlimited) to the 'sale'. This would be different to a share scheme which focuses on the overall company results. A balance sheet and profit and loss statement would be tracked just for the product in question. This would almost certainly attract a different team to the project and one that has a stronger connection to long-term outcomes.

d. Experiment

The case studies highlighted how often behavioural assumptions played a role in outcomes. The lurch to avoid taking these risks would undermine the purpose of insurance, but optionality is also built into the system through simple decisions consumers have whether to continue paying premiums or not.

Whilst we can't accelerate mortality or morbidity experience, we can accelerate learnings about behaviour - lapses, option take-up, anti-selection, responsiveness to premium changes and so on. Startups focus on running experiments to accelerate learnings, whereas life insurers treat

behavioural assumptions as inevitably slow to emerge. The key might be allowing the early customers to deliberately extend past the normal edge (obviously with some thresholds). The early pools could instead tolerate higher risk because learning is the objective, instead of seeking the safest possible initial cohorts, delaying insight.

Along with live data, behavioural studies could be constructed that test how consumers or advisors react to change, or how an edge cohort behaves relative to the target pool, or how stakeholders in the system behave, for example treating doctors in an environment of heightened community mental illness, or even internal pricing behaviour in a dislocated market. Essentially, the goal is a fast forward of the product that allows an understanding of how options might be exercised in extreme environments.

e. Build failure capital

The case study research kept coming back to this persistent question: why do we keep forgetting? For institutions that have existed for more than a century, there often appears to be a surprising shortage of corporate memory. In some extreme examples, ideas that had been banned or discredited in one jurisdiction resurfaced decades later in another - sometimes more than 80 years on - as if the original lessons had never been learned.

Life insurers, however, possess something few industries do: failure capital. The long liabilities should correspond with the asset of long memories. When products run for decades, the institution accumulates lived experience across pricing errors, lapse cycles, regulatory shifts, distribution distortions and claims surprises. That accumulated experience - across generations of actuaries, underwriters, product designers and distribution leaders - is under-utilised capital.

Inside every large insurer are individuals who have seen previous cycles: the product that grew too quickly, the commission structure that distorted behaviour, the definition that invited unintended claims drift, the repricing that triggered reputational damage. There are also lessons carried in from other companies - quiet institutional knowledge about what went wrong elsewhere. The question is: who is systematically gathering this? Who is curating and codifying this failure capital before it retires, resigns, or is reorganised out of existence? Corporate memory cannot rely on the ‘wise old men’ in the corner office; it must be institutionalised to endure. And the case studies showed that the devil is in the detail when explaining failure.

Startups offer a sharp contrast. They assume failure will occur, and they actively mine it. Post-mortems are written. Decisions are traced back to assumptions. Failure capital is treated as an asset that improves the next iteration. It is portable, shared and embedded into the process. If failure capital were treated with the same discipline as financial capital, product design committees would begin not with optimism about innovation, but with a structured review of historical fragilities. Launch papers would include documented parallels to past breakdowns. Governance forums would track recurring historical patterns.

f. Capture hearts and minds

Sales failing is a clean signal in many industries. If a new phone does not sell, the market has spoken. But life insurance operates under different laws. Customers buy safety and stability; radical novelty can feel like the opposite of the promise. The case studies related to products that just didn’t sell typically showed how innovation introduced not just product risk, but psychological risk.

Failure as a measure also depends on whose perspective it comes from - the customer, the shareholders or society. And some failures should be encouraged (or example, something new that failed for whatever reason quickly) whereas others might be treated with a bit more circumspect and introspect (for example, forgetting the basic principles underlying insurance just to write top line revenue).

Distribution, particularly advisors, sit at the centre of the 'new'. They must explain what is different and defend it years later if outcomes disappoint. Recommending something unfamiliar places their own trust capital on the line. That is why true innovation is so difficult in protection markets: it asks intermediaries to carry reputational exposure for designs that may take decades to prove.

For that reason, structural innovation, maybe even as the first fast follower, may be too heavy a burden for one firm alone - it's a tough path to get a new life insurance idea that is so long tail off the ground. In an ideal world, sandboxes made up of competitors all offering the same design and sharing data and insights without sharing commercial or pricing strategies would be an obvious starting point but would risk running afoul of anti-competition obligations.

Startups dream up demonstrable step change in benefits that justify new customers taking the risk. There is typically a singular focus on solving one big problem, the aim of a strongly articulated simple solution and a narrow group of customers and a preparedness to lose money on the first few sales to win the long-term game. Hearts and minds need capturing by life insurers through demonstrable better value (ideally lower cost for more benefit). Perhaps a willingness to lose some money, deliberately, to build momentum for the early pilot periods. Lastly, startups consider holding back all the features that could be introduced, partly out of cost and speed to market but also to focus on testing what will drive sales, even where broader structural innovation is available.

g. Positive surprise

Customers buy life insurance stability, safety and trust. The case studies showed that damage came from surprises - particularly negative ones such as sharp premium increases - which erode the very foundation of the category. One way to reframe this could be to redefine what constitutes a surprise. Instead of presenting pricing as implicitly stable and hoping experience aligns, insurers could communicate upfront the realistic range of outcomes. This might be based on the industry's aggregate history of premium movements at similar benefit levels, a best to worst range of possible adjustments over time, or even that company's own past experience with repricing. The consumer regulator may need to play a role in defining the scenarios or perhaps even publishing past price rise experience by life insurer, akin to investment performance, but by setting expectations transparently at the outset, volatility becomes contextualised rather than shocking.

The challenge is that expectations set upfront, to the extent they are even discussed, will be forgotten. Perhaps projections need to be set prudently and if experience turns out better than expected, insurers can deliver the only surprise that strengthens trust: lower premiums, credits, or slower increases than projected. In a product category built on long term confidence, perhaps only positive surprises should be planned.

Here may be a lesson in what startups sometimes do poorly. In pursuit of growth, some overstate traction, smooth over uncertainty, and present investors with a story that is rosier than

reality - only for a later correction to damage credibility. Life insurance cannot afford that dynamic with policyholders. The braver posture is not to imply certainty where none exists, but to acknowledge uncertainty with discipline and courage, reinforcing trust rather than undermining it.

h. Look for what's hidden

In startups and innovation theory, the conventional question is often 'is this a good idea?' - a question that tends to get friendly, non-confrontational answers. But life insurance sits in a different reality. The real test is one layer deeper: what happens when you ask someone to take out their own money, to commit financially? At that moment, the decision stops being about abstract superiority versus competitors and becomes a concrete trade-off against every other way the customer could spend their resources. Understanding product adoption, then, is not about clever features or polished presentations, it is about the actual point of sale decisions and the psychological tension that surrounds them. Startups aim to get an imperfect product to market as quickly as possible to test actual decisions when the credit card is required.

The challenge is compounded by education or financial literacy on the part of consumers and human behaviour in testing and feedback. Most customers and intermediaries do not want confrontation; they may give polite, reassuring answers, or simply avoid sharing their true concerns. Some may not even fully understand their own preferences until confronted with a real choice. Yet product teams frequently treat these early tests and surveys as if they are gold standard validation. They may, in reality, be fool's gold.

The other dimension is to explore a counter to the glossy/positive spin from the product and sales team. Debiasing techniques here are helpful tools (pre-mortems, red teams and so on). The leadership team sitting at the kitchen table with the end customers provides an extreme version but there is arguably scope for far more involved team members to understand complaints, listen to call centre queries, visit advisors (both before and long after launch) which all might provide hidden clues that change the trajectory of product outcomes.

i. View cumulatively

Many of the case studies started with a fundamentally sound product, but then through competitive pressure/distribution pressure/loss of corporate memory and so on, the risk profile ratcheted up over time. More generous conditions were added, underwriting became diluted, higher cover levels were introduced, operational failures crept in, perhaps weaker claims vetting or a shift in what was considered reasonable from the community expectation side.

Weaknesses compounded each other and controls were being diluted without full appreciation of the collective shift. Each step felt small but collectively over time the product moved a long way from where it started. And the way that each successive team viewed the changes came only through their anchored lens of what they inherited, without an understanding of a 'zoomed out' lens of the product through time. Eventually, to borrow a bad analogy, we ended up with Swiss cheese.

Large insurers benefit from in-force cashflows - legacy series continuing to generate earnings even as newer cohorts evolve. That creates both resilience and, unintentionally, insulation. When drift begins, it rarely presents as an immediate crisis. Margins may compress slowly, experience may deteriorate gradually, but the overall financial picture can remain stable for

some time. This allows, and sometimes encourages, a degree of patience. There is room to wait, to see if trends reverse, to avoid overreacting to early signals that may prove temporary. In that environment, confronting uncomfortable truths can be deferred because the system can absorb the delay.

Start-ups operate under a very different constraint set. With little or no legacy cashflow to rely on, they are far more exposed to early signals of misalignment. Drift is not something that can be tolerated; it is something that must be addressed immediately or it threatens survival. As a result, they tend to develop a sharper instinct for identifying when reality is diverging from expectation and a lower tolerance for ambiguity. The lesson is not that incumbents should abandon their natural advantages, but that they need to counterbalance them. To recognise that the same buffers that provide stability can also mask emerging problems, and to deliberately create conditions where uncomfortable truths are surfaced and acted on earlier than the economics alone might otherwise demand. Actuaries need to present this information to the decision makers, not just the change being proposed but a history of where the product began, the changes along the way (even before that team arrived), and the collective picture of how this contrasts with the proposed new complete view of the product design and risks.

j. Fast forward

We've developed a myriad of different ways to test sensitivity to future assumptions. Reverse stress tests, scenario analyses or stochastic models all try to project known or random events to inform decision making. But from time 0. Present values can be misleading because the longer the duration of the product, the more that small variations in the tail with regard to interest rates, lapse assumptions, termination rates or mortality/morbidity experience get discounted at outset.

In the assessment of exposures, should we be fast forwarding the product in time and consider the world 10 or 20 years from now from a balance sheet perspective, and then stress/scenario test from that point? What will future management teams be facing into if the only assumptions are the difference between the more crudely set long term assumptions and a scenario or stress that is fundamentally different? Decisions that may seem conservative in the near term may turn out to be insufficiently protective once the full-time horizon is considered and could lead to different strategies around design or exposures.

Startups focus on survival over the next 12-36 months. Capital is finite, business models are still being proven, and early assumptions are highly uncertain. Looking 20 years out can feel like false precision when the product, distribution, and even target market may evolve materially in the next few years. Long-term projections do exist to be fair, but they are often coarse and secondary to near-term validation. The discipline though of looking at the life insurance product that will be inherited by someone else 10 or 20 years forward is not about prediction though, but about revealing path dependency and forced interrogation of the long tail. The early assumptions, which are more likely to be accurate, are ignored and scenario and stress tests imagine the sensitivities for future owners.

7. So what?

The 10,000-foot sobering question after reading through the case studies is to ask how some of these case studies could happen?

We can look for the answer in the weeds, but it's almost impossible to look at each case study individually and then distil them into one single lesson, for the benefit of a soundbite. Each case study has its own nuance and context that even members of the same team who were there at the time have different perspectives on the true story. And their failures are almost always multi-factorial - to pretend otherwise risks oversimplifying our ability to find silver bullets that will guarantee success. But there are some nuggets and at the very least, avoidable lessons to take back into our current suite of products.

Figure 2 – Micro lessons

No.	Case study:	The best lesson highlighted the impact of:
1	US Post Level Term	Behavioural assumptions
2	UK Long term care	Morbidity claims experience for a new insured pool
3	Canada Term 100	Ultra long-term guarantees
4	SA Trauma	Difficulty convincing advisors to try something unique and new
5	Australia Consumer	Not knowing who the customer is
6	UK Unemployment	Systemic risk and misaligned incentives
7	Australia Lifetime IP	Claimants disincentivised to cease their claim
8	Australia Funeral	Not factoring in changing consumer expectations
9	Australia Auto Accept	Benefit generosity without commensurate risk control
10	Tontines	Opaque risk pooling

We might go up a level to try find the macro insights that hold true no matter the detail in the specific case study. Again, there are no silver bullets but perhaps there is a methodology we can apply. That is, when considering our products, the macro insights might be converted into a single simplified question for decision makers to ask; before, during, and long after the product has been sold. The answers to these questions might be proactively considered in pricing or documented as a reference point for future management. The intention is to encourage us to think about the longer term, whilst acknowledging we will get it wrong. If there is one application of this paper, it proposes to incorporate these questions (or similar ones) into our product, pricing and challenge sessions to force us to take off the rose-tinted glasses.

Figure 3 – If we could ask one question of the product team

Action	If we had to ask one question…
Accept turbulence	If volatility is inevitable, how have we incorporated the impact into the design?
Calling a spade	What risks do our customers think they have transferred?
Tether	How have we set up this product for the successor team/s that will be managing this in the future?
Experiment	What experiments have we run to test behaviours, both at sale and over the life of the product?
Build failure capital	What specific lessons from our own past product failures or from failures we have witnessed elsewhere are explicitly embedded in the design?
Capture hearts and minds	How is this product going to be a no brainer for our customers?
Positive surprise	How have we built in positive surprises to the design?
Look for what's hidden	If we assume some information is being hidden from us in our testing, what could it be and how are we incorporating this into the design?
View cumulatively	What are all the incremental changes to the product since launch and how does this cumulative upgraded design compare to the original in terms of risks?
Fast forward	If we fast forward to the balance sheet 10 years from now, where is it sensitive to changes in assumptions?

Our final step is to not forget the basics. We aren't trying to reinvent the wheel here, only supplement it. There are still the real macro questions we need to keep discipline around, related to understanding, risk and reward, alignment and expectations. These all need focus and time, and reassessment over time. Whilst not the subject of this paper, examples might include exploring and then documenting too:

- Understanding: Is the product understandable ('can I explain it to my mum')? Do we really understand the risks we could be writing, including on the edges? Do we understand how the distributors sell the products? How do end customers value the products, particularly if they don't claim?
- Risk reward: Do we have the appetite for those risks? Are we being remunerated for those risks? What risks aren't we being compensated for?
- Alignment: How are all the stakeholders in this process aligned on the outcomes? How could this change?
- Expectations: What do our customers expect us to do if we got it wrong? What does government or other stakeholders judging our social license expect?

Regardless of the nuggets, the insights, the methodologies or the basics, we're ultimately still left with the broadest question: why does this keep happening?

Risk-taking isn't a flaw in insurance - it's the game itself. It sits in the DNA of the industry and the people within it. We will get things wrong. Often. That's not the issue. The issue is what happens once the problem is visible. These failures are rarely sudden. They build slowly, in plain sight. Warning signs emerge early. Concerns are raised. And yet, many of the largest failures persist long after a consensus forms that something is off.

Agency does exist - not in avoiding every mistake, but in facing into challenges when they are still small. But we might be idealistic because the system breaks due to the conflict of its stewards. For example, what is the practical incentive for:

- an independent board member to take a firm position on shareholder profitability when the more immediate accountabilities relate to governance, regulatory scrutiny, and maintaining credibility for future board roles?
- an external auditor or consultant to materially disagree where it affects their broader client partnership?
- an actuary to push prudence if it affects their short term earnings?
- management to surface an issue that may ultimately cost them their role or their short term plans?

When the right decision threatens remuneration, reputation, or stability, it stops being a purely professional judgement. It becomes a personal trade-off. And that is the flaw. Not that people don't see the problem - but that the system makes it rational not to act early enough. It may still be the best system we have. But we should be clear-eyed about its limits - at the very points where discipline matters most, the incentives to exercise it are at their weakest.

Lastly, in setting out what we could do with this information, and focusing on our own agency, we should look a bit inward to our role as actuaries in these case studies and how and whether we acted as the conscience of the insurer? Where could we have stepped up or spoken up? Where can we draw lessons as a profession? If our role is to ultimately to elevate decision-making and to ensure choices are made with a clear-eyed understanding of consequences, trade-offs, history and uncertainty, where did we fail? What do we change next time?

Certainly, there is change happening globally to improve outcomes, particularly for end customers. In Australia for example, life codes and professional codes of practice have come a long way but only have value if they are lived and breathed, financial accountability regimes are new and place obligations on senior management, and board governance and quality has materially lifted from decades ago. These are all meaningful shifts, but they are not a substitute for vigilance or allowing ourselves the belief that there won't be more failure case studies decades from now. Structural challenges will remain, growth objectives and biases will creep in, and institutional memory will fade.

And yet, there is an optimistic way we can choose to read all of this. The very fact that these stories exist, and can be studied, shared and challenged means the industry is not starting from zero. There is a lot we can learn from a crisis. And if we knew or had certainty about the outcome, then it wouldn't be insurance. Few industries have the same depth of experience, the same long-term datasets and cashflows, or the same ability to observe how decisions play out over decades. If we choose to treat that history as an asset rather than an inconvenience, it becomes a source of competitive advantage rather than a catalogue of regret.

The goal, then, is not to eliminate failure. That would be unrealistic in any business defined by uncertainty. But to change its shape. Smaller failures. Earlier failures. More transparent failures. The kind that teaches quickly, still protects customers, and ultimately strengthens the system. That is where life insurers might take some, not all, lessons from startups without abandoning what makes them trusted institutions: combining long-term stewardship with a willingness to test, learn and adapt. If we can do that, then the question shifts. It is no longer 'how or why did these failures happen?' but 'how quickly can we recognise the next one forming, and what will we do differently this time?'

Appendix – micro lessons (continued)

f. Case Study 6: New perils

In the UK in the late 1990s and early 2000s, unemployment and income protection style insurance emerged as a product category that appeared, on the surface, to be both socially useful and commercially attractive. Sold as standalone policies or bundled alongside loans, mortgages, credit cards and retail finance, these products promised to step in when a consumer lost their job, fell sick, or suffered an accident - covering loan repayments or providing short-term income relief. Payment Protection Insurance (PPI) became the most visible example, but it sat within a broader ecosystem of accident, sickness and unemployment (ASU) products that proliferated across the market.

The consumer problem being solved was a short-term income shock from unemployment. Most households had little financial buffer, and a period of unemployment or illness could quickly cascade into missed payments, defaults, or forced asset sales. In theory, these products smoothed that risk, offering peace of mind at a relatively low monthly cost. From an insurer's perspective, the risks appeared diversified, short-tailed, and lapse-supported. Claims were capped in duration, benefits were modest, and policies were often cancellable at short notice.

The early economics of UK unemployment products were flattered by benign conditions: stable employment, rising credit growth, and strong persistency driven less by consumer engagement and more by inertia. Products were priced assuming relatively low and uncorrelated unemployment risk, modest claim take-up, and administrative frictions that would naturally suppress claims. Distribution was dominated by banks and lenders rather than advisors, and success was measured by attachment rates rather than long-term customer value or claims experience. These products accounted for a quarter of one of the major bank's profits at one point, creating a distorted conflict of interest.

Two structural weaknesses sat beneath this apparent success. The first was mis-selling risk. Products were often sold to consumers who were ineligible to claim (self-employed, contract workers, retirees), who already had cover elsewhere, or who were unaware they had purchased the product at all. The second was systemic risk. Unemployment insurance, unlike mortality or individual morbidity, is highly correlated. When the economy turns, claims do not rise gradually - they surge.

The 2007-2008 financial crisis exposed both these weaknesses simultaneously. As unemployment rose sharply, claim volumes spiked just as scrutiny intensified. Consumers who had previously ignored small monthly premiums became acutely aware of the cover they were paying for and, crucially, whether it would pay out. At the same time, regulators and courts turned their attention to sales practices. The UK Financial Services Authority (and later the FCA) concluded that large parts of the market had failed basic standards of suitability, disclosure and fairness.

The result was not merely higher claims, but retrospective liability. Insurers and banks were required to refund premiums, pay compensation, and reassess back books of business. What had been modelled as a short-tail, high-margin product line became a long-running remediation stretching over a decade. Profitability assumptions were invalidated not by incremental adverse experience, but by a step-change in legal and regulatory interpretation. Losses were realised

not only through claims, but through redress - including on policies that had already lapsed or expired.

What went wrong or proved challenging?

In short: systemic risk and misaligned incentives.

Unemployment insurance was priced and managed as if it were idiosyncratic, when in reality it was macro-driven. Distribution channels were rewarded for volume, not suitability. Commissions were as high as 70%. Loss ratios on some lines were as low as 10%. Underwriting was tied to loans where banks had dropped their risk controls on financial underwriting and so this had a knock-on effect for the unemployment cover. And insurers underestimated the extent to which poor outcomes would be judged not just actuarially, but socially and politically. Ultimately, compensation to redress the misselling was estimated at more than 50bn pounds.

The UK unemployment insurance experience highlights a different but equally important lesson about insurance innovation. Products that appear short-term and flexible can still embed long-dated liabilities if they depend on fragile assumptions about behaviour, regulation and economic stability. PPI and broader UK unemployment products teach caution about correlated shocks and retrospective judgement. In both cases, insurers learned - at significant cost - that risk is not only what can be modelled, but what can be reinterpreted years later. We also start to see the same overlaps with severity-based trauma ('what happened in the UK couldn't happen in Australia') or Term 100 ('as unemployment started to rise, why are we celebrating massive increases in sales volume'). Lastly, any product with an ultra-low loss ratio should be offered with caution – too high is bad, but these products went too far in the other direction.

The UK unemployment insurance experience highlights the importance of viewing risk through the right lens. Short-term, low-claim periods do not guarantee stability; products exposed to macroeconomic or systemic shocks - whether unemployment spikes, floods, or earthquakes - can appear safe until they are not. Had these products been treated and understood, even by consumers, more like general insurance lines with rare but severe events, rather than as predictable life insurance-style cash flows, insurers might have adopted a more cautious exposure, reserving and capital approach. Celebrating early disproportionate profits from unusually benign experience can be misleading, creating incentives to assume stability that does not exist, including making decisions about the average and ignoring the risk in the tail.

A memory from the past

A few guilds offered members no longer able to work a pension from the age of 50 or 60. In 1654, for example, the Amsterdam shoemakers' guild ruled that from about the age of 60 shoemakers could receive a pension if they were no longer able to carry out their trade due to 'illness, impotence, or such like'.

Excerpt from Brouwer Ancher, Gilden p 107 as set out in The Economic History Review 65, M Van Leeuwen

g. Case Study 7: Extend claims durations

In Australia in the 80s and 90s, a variant of income protection insurance emerged that promised to replace income for life once a policyholder became unable to work due to illness or injury. Unlike conventional income protection, which typically cap benefit durations at two, five years or to age 65 (or 70), these 'lifetime income replacement' policies offered payments that would

continue until death if a claim commenced before age 60 (with tapering features for later claims).

The consumer problem being solved was long-term income loss in retirement. The objective was offering long-term financial security, a bridge to retirement (preserving savings), peace of mind and protection against cost-of-living increases for households reliant on a primary earner. From the insurer's perspective, the products appeared attractive: premiums would be high, underwriting would be strong to filter out high-risk applicants, and this was sold alongside a mix of other duration income protection policies to diversify exposure.

We can see the pattern by now of overly optimistic assumptions playing their part (lower lapse rates than expected, higher than expected claims inflation, lower than expected investment returns etc). Data couldn't have existed at old age durations so was price based on return-to-work information using shorter duration income protection products as the starting point.

Given the higher premiums, and perhaps the distribution channels, this had an anti-selective effect on who would buy, not to mention creating a distorted incentive to remain on claim (or claim before 60) indefinitely. Usually claims are individually idiosyncratic - a disability affecting one policyholder did not necessarily imply a broader systemic shock but in this case the level of systemic impact of all policyholders on claim was not incorporated.

By the early-2000s, insurers began to experience the full impact. As claims began to accumulate, insurers confronted the reality of concentrated, long-dated exposure where once a policyholder entered benefit status, there was minimal ability to reduce payments, reprice premiums, or encourage exit. The strain on reserves and capital requirements of the products entering loss recognition led this benefit duration option being removed from the market.

What went wrong or proved challenging?

In short: claimants disincentivised to cease their claim.

Albeit more expensive, it had a strong marketing appeal for higher net worth customers (including driving higher sums assured) and initially experience would prove benign, akin to LTC policies in the UK, all the while the tail risk quietly accumulated.

The lifetime income replacement experience highlights the perils of offering indefinite claims guarantees without sufficient long-term data or dynamic pricing flexibility. Products that pay indefinitely transform what appears to be a standard insurance risk into a quasi-annuity exposure, highly sensitive to both morbidity trends, mortality improvements and macroeconomic conditions (for example, inflation eroding the real value of benefits).

Although the product design, pricing assumptions, and long-tailed exposure created the structural vulnerability, we can also see the impact and misalignment of claimant behaviours in terms of being incentivised to stay on claim (and to some extent, keeping the policies going prior to claim).

A memory from the past

And where a guild brother is afflicted by a lingering illness, due either to a fall or any other convenience or misfortune, that brother shall be supported from the fund, but if he contracted the lingering illness through an insalubrious way of life, such as drinking to inebriety, engaging with disreputable women or such like, he shall not enjoy the support of the fund..

Excerpt from International Institute of Social History courtesy of Piet Lourens, The Economic History Review 65, M Van Leeuwen

h. Case Study 8: Decrease cover

In Australia in the 90's and 2000's, funeral insurance was sold as whole-of-life cover with fixed sums insured (often $3,000–$15,000) under both a level and more commonly bought age-stepped premium structure. The first year's premiums were sometime 'free' and there was minimal underwriting and immediate issue.

Targeted at older Australians and lower-income households, it aimed to address the consumer need of how to meet modest end-of-life expenses without burdening family members or requiring savings at death. From the insurer's perspective, the risks appeared predictable: mortality was well understood, claims volatility was low, sums insured were low, and policies were lapse-supported.

However, a few structural flaws sat beneath this apparent stability. The first was economic unfairness embedded in product design. The premium structure for stepped polices, different to funeral policies sold in the UK, meant that long-standing policyholders could end up with cumulative premiums that exceeded their sum insured, sometimes multiple times over. The small premiums and high associated expenses and distribution costs also resulted in low relative loss ratios.

Finally, distribution-driven misconduct emerged where these policies were sold through high-pressure sales tactics, particularly via outbound telemarketing, which was contradictory to the poor understanding of the products given the age, sometimes vulnerability and financial literacy of the intended customers.

As scrutiny intensified, the challenges emerged as not ones of technical pricing or profitability or need, but of social licence. A Royal Commission brought direct selling practices, previously acceptable by the insurers' standard, into conflict with changing consumer expectations. Products that were actuarially solvent were judged unacceptable because outcomes were unfair.

What went wrong or proved challenging?

In short: not factoring in changing consumer expectations.

It wasn't assumptions but rather understanding the impacts for vulnerable cohorts, where low engagement, fear of funeral costs, difficulty to cancel and proportional value needed to be carefully considered. The funeral insurance experience in Australia reinforced that products targeting vulnerable or older customers must be assessed not only on loss ratios, but on lifetime value symmetry. More broadly, it demonstrated that long-duration products with small premiums or no guarantees, even if only mortality, are not low-risk simply because claims are predictable. There are overlaps with this aspect of the product and unemployment insurance sold by the banks attached to loans.

We could look back and say that the real failure emerged as one of a social test where the true tail risk lies in how fairness is judged years later. Did consumer expectations change or were they not considered? The design wasn't assessing what happened at the tail end of the life of the policy - paying more in premiums than sum insureds, or relying on inertia, the pub test for

loss ratios – which all should have been a flag early on and highlights the theme of making sure we consider the consumer's experience, all the way to the end.

A memory from the past

The amount paid in claims absorbed only £22,400,000 out of the £54,000,000. It does not look as if the working-classes as a whole have got a very good proposition when they pay £54,000,000 in premiums and only get £22,400,000 back in claims paid…Turning to the latest figures which the Committee had before them on the question of lapses, I find that the new policies taken out in 1929 numbered 10,000,000. Of that number, 6,000,000 were discontinued, 4,750,000 of those policies lapsed altogether, and 1,250,000 had surrender values or free paid-up policies granted. That was in 1929, a year of comparative prosperity. What must it have been in 1931?

Excerpt from UK Parliament debate on industrial life insurance, Sir B Pesto, 1934

i. Case Study 9: Increase cover

One of the more common product features to compete on is benefit levels. Numerous examples persist - in the early 2010s, group insurance in Australia saw Automatic Acceptance Limits (AALs) skyrocket to unprecedented levels of $1.5 million TPD benefits without medical underwriting. Indexation of retail disability benefits, which are sometimes subject to a minimum increase each year of 5%, would alter the level of risk implied at outset of the policy. In a similar vein, income protection decades ago used to offer a maximum 50% replacement ratio which slowly crept up to 75%, then up to 87% to include super contributions. Agreed value was added too, that fixed the replacement value instead of indemnifying the lost salary. Offsets from other parts of the system such as workers compensation, other statutory benefits or the interaction with IP and TPD when both were held weren't always incorporated.

In all cases, the consumer need being solved was arguably simple: underinsurance was widespread, a permanent disability from a young age might leave the insured without income for long periods so higher levels of cover promised to close that gap. From an insurer's perspective, this was a differentiator - promising scale, reducing individual underwriting costs, signalling risk appetite and enhancing persistency. In the group context, there was some thinking that this only applied to new covers which were a small proportion of the block so any claims as a result would be spread out 'in the wash'.

Aside from diluting underwriting discipline, morbidity benefits that approached or exceeded net pre-disability earnings created behavioural distortions, weakening return to work incentives and lengthening claim durations beyond pricing assumptions. Lump sums that offered unintended multiples of salary (20 times for example) would change attitudes to trying to claim. What was positioned as comprehensive protection crossed into effective overinsurance - where the sum of cover, offsets and benefits exceeded the genuine economic loss.

At an industry level for lump sum, it was difficult to spot the impact of higher AAL's decisively although more recent TPD experience has been showing the high indexed cover effect. This was exacerbated by reinsurance in some ways, where surplus cover treaties or durations of business sold would distort how insurers and reinsurers viewed the experience. In contrast, agreed value income protection or the experience differentials between high and low replacement ratios has always been apparent where pricing was thought to be a lever to control the risk.

What went wrong or proved challenging?

In short: benefit generosity without commensurate risk control.

The principle of moral hazard and overinsurance was at play. Rising cover levels and expanded income replacement assumed that the behavioural, morbidity and selection dynamics would remain constant - an assumption that proved optimistic. Higher limits without underwriting added tail risk, and higher replacement ratios undermined return to work triggers and extended claims beyond priced durations.

The experience highlights that higher benefit levels materially alter risk dynamics and require proportionate underwriting, pricing and reserve frameworks. It is not enough to assume that larger coverage simply scales existing pricing models: coverage limits interact with behaviour, morbidity, and capital requirements in non-linear ways. Actuarial frameworks must incorporate these interactions, particularly related to the whole system (workers compensation, mental health, having combined benefits etc) explicitly rather than treat them as incremental adjustments to base designs.

The profile of the book that is left behind needs to be considered. By opening the risk gates, you might win on volume for a while, but the history goes with you into future claims experience reviews and once in the system, pools of risk would need to recover via increasing premiums magnified by the risk of selective lapsation.

A memory from the past

As a specific device against moral hazard, most life insurers did incorporate a "suicide clause" into their policies, exempting the company from paying claims on deaths occurring by suicide, judicial execution, and sometimes also dueling, but this offered only a partial solution to the potential problem of insuring lives shortened by the pressures of debt.

Excerpt from Moral Hazard and the Assessment of Insurance Risk in Eighteenth-and Early-Nineteenth-Century Britain, R Pearson

j. Case Study 10: Pass the risk

Life insurance tontines emerged in Europe in the late 17th and 18th centuries as one of the earliest attempts to pool longevity risk. Under a tontine, a group of individuals contributed capital into a common pool. The pool generated income, which was distributed periodically to surviving members. As participants died, their shares were redistributed among the survivors. The last survivor - or last cohort - ultimately received a disproportionately large benefit. In contrast to annuities, there was no guarantee of a fixed payout for life; the reward came from outliving others.

The consumer need was ensuring lifetime income, no different to the need behind annuities, albeit this had a combination of retirement income, lottery-like upside, and a wager on one's own survival. For insurers, the structure was capital efficient: payments naturally declined as participants died, and longevity risk was self-correcting (with the risk effectively being borne by the participants). Tontines were credited with the level of capital that built up within mutuals given that dividends could be deferred for long periods.

But they were poorly standardised. Entry ages varied widely, mortality assumptions were crude, and governance was weak. Participants had little visibility into how pools were managed, how income was calculated, or how deaths were verified. Survivors at advanced ages

received extremely high payouts relative to contributions, while earlier deaths produced outcomes that, in hindsight, looked punitive to families.

Tontines also encouraged behaviour that made politicians, regulators and courts deeply uncomfortable: incentives to conceal deaths, disputes over proof of survival, black boxes of policyholder money, fraud and in extreme cases, suspicions of foul play. The one winner takes all felt unfair when the game played out.

By the 19th century, public perception had shifted. Tontines began to be viewed less as insurance and more as speculative gambling on death. In the United States, this culminated in the Armstrong Investigation of 1905–1906, which also exposed a few abuses and ultimately US insurers were prohibited from issuing new tontine policies, with similar bans or restrictions followed elsewhere although they still exist in some European countries.

What went wrong or proved challenging?

In short: opaque risk pooling.

Tontines assumed that fairness would emerge naturally from pooling, but small differences in survival translated into massive differences in outcomes. Governance failures and weak disclosure turned what was meant to be a self-balancing structure into a reputational and political liability.

The tontine experience illustrates a recurring theme in insurance innovation: removing explicit guarantees does not remove responsibility. Products that rely on collective risk-sharing still require strong governance, transparency, and social legitimacy. Modern attempts to 'rediscover' tontines or pooled longevity products tend to repackage them with stronger disclosures, smoother benefits where there isn't 'one winner' only, and institutional oversight.

Extreme outcomes - elderly survivors receiving very large incomes funded by the deaths of peers - might be mathematically coherent but are publicly unacceptable. Insurance products do not operate in a vacuum; they are judged ex post by courts, regulators, and public opinion. Tontines crossed an implicit social boundary where outcomes, though contractually valid, conflicted with later ideas of fairness and decency.

A memory from the past

"…I know not for certain whether there is so much money, nor do I know if there is more, but I think so. If there is more, it is to be shared among all to whom I have bequeathed money…"

Excerpt from will of Alfred the Great (AD 873-888)

The author gratefully acknowledges the many individuals who contributed their insights and perspectives to this paper. To encourage candour and ensure the most complete and unfiltered account of events possible, all contributions have been provided on an anonymous basis.