Reflections over 40 years

Injury & Disability Schemes Seminar 2025

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November 2025

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This paper records some of my reflections over 40 years of work in accident compensation. It has been prepared for the 20th Actuaries-sponsored seminar for accident compensation and, more recently, disability schemes. They are personal views, not those of any of my employers or clients.

1 Outline

I started working with accident compensation in 1984. As a consulting actuary for the 41 years since then, and as I am about to retire from my job, I can't help but reflect on the experiences and learnings over that time.

I am delighted to have the opportunity, in this wonderful seminar series sponsored by the Actuaries Institute, to share those reflections with you.

I hope to share a few anecdotes, my observations on some of the most interesting events in our sector, and some of the things that I hope we have learned (or sometimes not learned) together.

1.1 The first accident compensation seminar

The first seminar in this series was held in 1989 in rural South Australia. From memory there were about 25 attendees.

The guest of honour was Sir Owen Woodhouse, the famous New Zealander who was the creator of the ACC that started in NZ in 1974. He was also instrumental in the planning by the Whitlam government to introduce a look-alike scheme for Australia in 1975. The legislation was ready to go when the infamous Whitlam dismissal occurred in November 1975, and many of us do not know how close we came to having Australia's ACC. I am told that after his defeat Gough Whitlam introduced the legislation as a private member's bill.

Being young and enthusiastic I wrote a paper for that first seminar in 1989. It was called 'Predicting Accident Compensation Costs' and subtitled 'The temptation of wishful thinking'. I found it recently and have included it with this paper (it is only seven pages, but at least it will be digitised that way). It was amazing how true I still found it, looking back from the end of my career. You can get the drift from these quotes that littered the paper (citations are in the paper):

> *I generally avoid temptation unless I can't resist it.*
>
> *Men are not against you, they are merely for themselves.*
>
> *I always avoid prophesying, because it is a much better policy to prophesy after the event has already taken place.*
>
> *Penetrating so many secrets, we cease to believe in the unknowable. But there it sits nevertheless, calmly licking its chops.*
>
> *In giving advice seek to help, not to please, your friend*

A shout-out to Richard Cumpston, who led a lobbying effort to convince the Actuaries Institute to put on this seminar separate from its General Insurance seminar series, and we have not looked back.

1.2 My first insolvency

One of the first clients I worked on in 2004 was National Employers Mutual. NEM was a UK mutual company, and its Australian business was managed by Lumley. It was one of the largest workers comp insurers in the country at that time, particularly in NSW.

NEM's failure was a classic example of under-pricing and under-reserving. It had a deserved reputation in the market at that time for undercutting rates.

Actuarial reserving was still in its infancy at that time. I remember spending hours at night trying to really understand how a Payments Per Claim Incurred valuation actually worked, and how superimposed inflation would appear as a 'growing tail' in the payment patterns.

NEM argued that their case reserves were adequate because they measured the cost of the claims they finalised each year and on average they were always below case estimates. We subsequently learned that the case estimating approach was mainly to reserve one year of income benefits. The claims that finalised didn't use up their whole one year's worth, but all the other ones needed to have another year's worth added to the estimate by the end of the year. A lesson in the value of understanding how insurer case estimates are set.

1.3 Victoria's social experiment

1984 also saw the development of Victoria's WorkCare scheme. It was a generous scheme design, and established with an optimistic average premium of 3.2% of wages. Its establishment was very public, with a one-day seminar dedicated to the plan and whether the cost was realistic but, after a partisan debate in Parliament, the scheme went ahead and started on 1 August 1985. It was an ideologically driven design, with a separate agency, the Victorian Accident Rehabilitation Council, in charge of rehab, while the ACC was the insurer.

As an employee of the first scheme actuary appointed by the Board, this role was a great challenge. Perhaps it is fortunate that by the first balance date of 30 June 1986 it was obvious (at least to actuaries) that the number and continuing duration of weekly benefit claims meant the scheme was truly costing a lot more than 3.2% of wages.

There followed five years of controversy, with endless political and bureaucratic wrangling as costs grew and attempts at control faltered.

The turning point came with the landslide election victory of Jeff Kennett's Liberals beating the long-ruling Labour government led by Joan Kirner and previously John Cain. A clear part of Kennett's platform was to abolish WorkCare and after the election his first two pieces of legislation were:

1) Giving industrial relations powers to the Federal Howard government

2) Replacing WorkCare by a much more modest workers compensation scheme called WorkCover.

1.4 Victoria's sustainable counterpoint

The commencement of WorkCare in 1985 was followed shortly after by the motor accident scheme – the Transport Accident Commission. It did not replace private insurance but was a combination of two existing state institutions – the Motor Accidents Board providing no fault cover and the State Insurance Office providing CTP (common law coverage).

The design of the TAC scheme was a huge contrast – it was dominated by the desire for sustainability with much greater controls and more limited benefits compared to WorkCare. TAC commenced in 1987, after the legislation passed in 1986 with the support of both major parties. The financially conservative approach was present from the top down, and that culture continued for more than 20 years.

Why the contrast between these two schemes in Victoria? At some level, the fact that motorists have no organised group representing accident victims and similarly no strong group representing premium payers, must have made a difference. Workers compensation, in contrast, can be seen as a continuous battle between

the trade union movement wanting a better deal for injured workers and employer groups wanting lower premiums. This difference between motor accident and workers compensation schemes continues to this day, and makes the political and scheme management of a motor accidents scheme rather easier. The main lobbyists now tend to be the legal professions, especially those representing plaintiffs.

1.5 The big picture of the reform period

The period from 1984 to 1990 was one of the most active in terms of major changes to compensation schemes in Australia, at least in some states. In other structural changes we saw:

- NSW workers compensation moving to the WorkCover managed fund arrangement in 1987
- South Australia introducing its own WorkCover scheme in 1987
- Motor Accidents in NSW moving to a fault-based statutory benefits scheme called TransCover and then to a common-law based system with private underwriting in 1989.

The genesis of these radical changes was probably the period of high inflation from 1973 to 1983. Some benefits were indexed and common law damages increased to match wages and costs (at least roughly). All the motor accident and workers compensation insurers (public and private) began to lose money. Being compulsory insurance classes, the premiums were regulated and never kept pace with inflation in costs. The insurance companies losing money and gradually withdrawing from various schemes and the desire of governments to keep premiums at acceptable levels was a tension that could not be readily resolved.

1.5.1 Motor accident outcomes

Historically, CTP insurance had been provided by private insurers in nearly all states. However, at that time each state had its own 'government insurance office' established decades prior, with a mission roughly described as 'keeping the bastards honest'. As CTP insurers withdrew from markets the GIOs picked up the market share until, in most states, they had an effective monopoly. The monopolies eventually became legislated. The exceptions were in Queensland (where FAI clung on to a share) and in ACT (where NRMA became a private monopoly provider).

Governments began to sell their insurance companies from about 1990. Since 2010 there have been no state-owned insurance companies, with NT the last to go. Curiously the Tasmanian Liberal party in 2024 said they would start a new government-owned insurer, but as of late 2025 it has not eventuated.

For governments with the state insurer providing the CTP insurance, selling the government insurer created a serious dilemma, because they did not believe that they should permit a private monopoly. The eventual outcome is a very mixed structure:

- Victoria and Tasmania had pre-existing state motor accident insurers, which have continued on a relatively stable basis
- WA moved the CTP into its residual entity (ICWA) that insures government risks
- NSW, Queensland, and South Australia have commercial insurers, operating under various models of restricted competition
- NT, and South Australia until recently, retained a state insurance scheme, but with scheme management outsourced to a commercial insurer.

1.5.2 Workers compensation outcomes

The workers compensation scheme outcomes from this era of change fall neatly into two categories:

- A state insurer: NSW (except for some specialised insurers), Victoria, South Australia, Queensland; apart from Queensland all use commercial claims agents

- Commercial insurers operating with a State regulator: WA, Tasmania, ACT and NT.

Of course, self insurers come into play in each jurisdiction and the structure of workers compensation for government employees is also variable. National employers may also self insure under the Comcare legislation.

1.5.3 So what does it all mean?

I can't see any great logic, or any clear pathway for the sector nationally. There is actually an inverse correlation between a state using government or private insurance for each of the two statutory classes.

I can only regard the evolution of our various accident compensation schemes as accidents of political history, not something with any kind of national direction or coherent philosophy.

For each of us it creates challenges in our jobs, sometimes interesting and sometimes not. It does take me back to my appreciation for the actuaries organising this seminar series and the enormous value it has added for those people involved, who necessarily have a limited range of scheme experience and are often constrained from talking widely about it.

I am very proud that my profession has been able to provide a seminar series, aimed at out clients not just at actuaries, that has developed a culture as a place where people from different jurisdictions can meet and talk confidentially about some of their challenges and responses.

2 Personal Highlights

This section outlines a few personal highlights (and lowlights) for me. I have been fortunate to work on many of the scheme crises and reforms over the last four decades. This part of the paper could be a whole book, so I have tried to restrict myself to a brief description and one or two comments. However, if any of you are curious to know more, suffice to say that I love talking about it.

Year	Event	Observations
1987	NSW and SA WC, TAC	Already governments and experts had learned from some of the mistakes of WorkCare, and each of these schemes was much more modest in benefits and entitlements. In the case of SA this meant it took much longer for the scheme to fail financially and it was not until 1992 that cost-reduction changes were made, and a major reform in 2014.
1989	Private underwriting of CTP in NSW	Nick Greiner (then premier) was successfully lobbied to get rid of the GIO monopoly and bring common law back to its central role in the scheme. The fact that GIO was about to be privatised was probably also relevant. An example of a major change (the TransCover scheme) being reversed by a new government.
2017	The Citizen's Jury redesigning CTP in the ACT	Succeeded because the government committed up front to doing what the jury recommended, and then followed through on that commitment. A later attempt to replicate the process in Queensland (this time done by RACQ not the government) failed.
2015-19	Uncovering the extent of claim farming and associated fraud	NSW, Qld, other states – while there has been piecemeal legislation in some states, it has been a very resilient business model. As a nation we have not resolved the problem, and we are increasingly vulnerable with the growth in social media and AI
1987-2025+	NSW WC changes	Major cost-reducing changes were made by the Unsworth Labour government in its last days in 1987. It is curious that most of the tightening of the NSW schemes has been done by Labour governments, with John Della Bosca being a prominent figure in both the workers compensation and motor accident schemes.
2022	Review of Seacare scheme	Opportunity to review the Seacare scheme, which was facing some existential threats. The outcome? Absolutely nothing.

Having started this list, I found myself unable to complete it in any vaguely sensible way. There were just too many. My apologies.

3 Some of the hot topics

In this section I share my thoughts on some of the hot topics that have been around our sector.

3.1 Is public or private underwriting better?

I have often been asked my views on this fundamental question. My answer has always been 'neither system is inherently better or worse – it is how they are managed'.

One advantage of a privately underwritten market is that has an extra 'check and balance' in that if insurers are losing money the government will hear about it loud and clear. While it is hard going, some change generally follows – more often than not tightening of benefits – but sometimes has led the government to take over the scheme. In a public scheme, on the other hand, there is more scope to disguise or ignore the bad news and there have been plenty of examples of this happening.

A public scheme can have greater control, provided the governance (and working relationships with government) are good.

3.2 The place of common law in compensation schemes

The debate over the role of common law entitlements has been around for decades. In the US workers compensation schemes common law rights were extinguished more than 100 years ago. This is referred to as the "grand bargain" - where workers gave up the right to sue their employers for workplace injuries and illnesses in exchange for guaranteed, no-fault benefits like medical care and lost wages.

This grand bargain has not taken hold in Australia, with common law entitlements sometimes being removed and then reinstated after a change of government. In no jurisdiction is the common law entitlement still 'unlimited' – there is a very wide variety of limitations and thresholds.

I remember a time early in this century when there appeared to be a developing consensus that common law entitlements had run their race and would gradually disappear from our compensation schemes.

That prediction was a long way from the mark. Most lawyers seem to be ideologically committed to common law rights (or perhaps just economically addicted) and undoubtedly have been influential with governments over the years. There is, of course, still some moral element that if you were injured by somebody's negligence you should be entitled to some compensation. There was an old argument that it also punished and incentivised parties that were negligent, but my view is that argument has not carried weight since compulsory insurance was introduced.

I think my overall personal preference would be for a no-fault scheme only, but I have long reconciled myself to the small chance of this being maintained. It becomes necessary to carefully design any limitations to be placed on common law rights, along with the systems by which negligence is decided and damages amounts are agreed or determined.

Over recent decades it is interesting that Victoria and NSW have struggled to manage systems that have a significant common law component, while Queensland and Western Australia have, by and large, been able to maintain them.

3.3 Lifetime benefits

It is often thought desirable that income replacement benefits should continue until retirement age, while medical treatment should continue to be available for life.

Experience has shown, however, that schemes with these features tend to be very costly, and various compromises have been tried. The most common is to place a time limit on income replacement except in the case of 'serious injuries' (the definition and implementation of that exception creating challenges of its own) and similarly putting time limits on medical benefits except in the more serious cases.

I have a philosophical dilemma about this, which leads to a rhetorical question: 'for how long is it appropriate for an employer or a motor accident insurer to be responsible for the problems of a person's life?'. There is no ready answer to this question, but in my view it should be part of the thinking during scheme design. The advent of the NIIS schemes in motor accidents and workers compensation may make this question easier to deal with, although those schemes do have very limited entry criteria.

3.4 Mental harm (or psychological injuries)

This phenomenon has been a growing problem in our compensation schemes – both primary and secondary injury claims.

I am firm in my view that we have not sorted this at all.

In workers, 'reasonable management action' was introduced some years ago, but has not stemmed the growth.

More recently Victoria made changes to its workers scheme putting further restrictions on employment-related claims, and NSW is grappling politically with its own changes.

I think this strategy of tightening the eligibility rules is not a solution. The impacts on a person are ultimately qualitative, evidence is limited almost entirely to self-reporting and claim processes are quite vulnerable to coaching, which occurs with an unknown frequency.

In my view the approaches need to be much more holistic, based on the person's overall life situation and looking outside the narrow compensation and treatment aspects of our schemes.

Our workers compensation systems are simply not fit-for-purpose for dealing with mental harm. Let me give two examples.

3.4.1 Return to work

There is a well-established paradigm, often embedded in legislation, that recovery needs to involve a rapid return to the previous workplace. For most mental harm in workplace settings the underlying issues are usually failed personal interactions in the workplace. For a person who has found it necessary to leave work and claim compensation, how can it possibly be helpful for them to be encouraged (or forced) to go back to that environment as soon as possible?

There should be a clear alternative pathway in the compensation scheme whereby claimants with mental harm are specifically managed by avoiding the previous workplace, with a focus on job placement elsewhere including retraining in some circumstances.

3.4.2 Benefit entitlements and duration

I think it is reasonable for income replacement benefits to be available in the early stages of an accepted claim. However, it should not be a long-term entitlement – I wonder if 3 months might be long enough, but possibly it is more realistic to use 6 months or 12 months.

After this time, if a person's condition is such that they cannot work, then it is most unlikely that work was the principal cause and the responsibility should shift from the compensation scheme to our community support systems including social security.

On a similar note, the treatment and support available (at the scheme's cost) needs to be tailored. I think involvement with an expert psychology practice should be required, and also with a time limit of up to 12 months. It must be a 'whole of life' response to the person, and include the availability of retraining and job-seeking support.

I find it relevant that (based on my knowledge) PTSD claims from a single event have a much more stable and cost-effective compensation experience than other conditions. In these cases return to previous employment is frequently a very real possibility.

A further problem is the focus on 'permanent impairment', for both lump sums and continuation of entitlements. Very few mental health conditions are actually 'permanent', and I think it is unhelpful for a person's wellness and recovery to have this focus on 'are you permanently impaired'?

3.4.3 What works for recovery from mental harm?

At this time I do not think that we have broad knowledge or consensus about 'what works' for compensation scheme participants with mental health conditions.

I would dearly love to see a nation-wide five year program of research and evaluation of alternative programs with the goal of producing a widely supported guide on treatment pathways.

This is not beyond the capabilities of the medical profession as a whole, as can be seen in 'the health benefits of good work' and recommended treatment pathways for back pain.

There is always talk of 'evidence-based' approaches, but I am not aware of any credible and trusted body of evidence about what works.

3.5 Whole person impairment

Any scheme needs boundaries around the availability and quantum of benefits. The idea that support should be directed to the more seriously injured is well embedded. But what are the best ways of achieving that?

Over a period of about 40 years the popularity of the use of medical guides for Whole Person Impairment has expanded widely.

The approach has widely understood limitations – recognised in the Guides themselves – but ends up being chosen because of the apparent objectivity and repeatability. Personally, I feel much better about such decisions being made by medical professionals than by lawyers and judges.

3.5.1 Which impairment guides to use?

In Australia we started with the American Medical Association Guides 2nd edition (AMA2 1984). The most widespread adoption was of AMA4 (1993), with some schemes moving to AMA5 (2001). There is now an AMA6 (2008 and updated three times since). To my knowledge the 1st edition (1971) and the 3rd edition (1984) have not been used.

As is customary in our sector different schemes have adopted different versions. It could readily be described as a canine's morning meal.

To make matters worse most Australian schemes include specific modifications to the Guide adopted. The most common modifications are for psychological conditions, pain and hearing loss.

The modifications for psych are probably the most problematic, with each of Victoria and NSW creating their own (known as GEPIC and PIRS respectively). How can this be helpful?

Sometimes a scheme will create its own guide, as has happened with Comcare. Queensland civil liability (including motor accidents) has a system called Impairment Scale Values (ISV) based on AMA5 but using judgemental ranges. This was also adopted for Motor Accidents in SA.

Safe Work Australia made a valiant attempt to achieve consistency with a national 'best practice' guide, but it has not taken off.

One piece of legislation included a tactical error in that it specified that the 'latest version' of AMA Guides be used, which caused chaos.

In Victoria, probably too much detail is included in the legislation, rather than having a regulation-setting process.

3.5.2 Applying the Guides

Impairment assessment requires a specialised (and often specifically trained) doctor. Disputes are often handled by a Medical Panel. Unfortunately (in my view) many Courts have dabbled with interpreting the Guides and making decisions about how they should be applied. I really dislike this, even when it is dressed up as a 'judicial review' which is a game used to dispute a decision when that decision is meant to be binding and not subject to appeal to a Court.

Introduction of the Guides was first used for 'permanent impairment' or 'non-economic loss' benefits, replacing the former versions of a 'table of maims'.

Now it is being used for common law and other eligibility thresholds, gateways for extending income replacement and a range of other purposes. I can see the logic of this, but it challenges the philosophical underpinnings of assessing 'whole person impairment'.

3.5.3 What is to be done?

I think Australia is overdue for a major project to review and overhaul the use of WPI Guides and create a uniform approach and an updated mechanism.

Could motor accident and workers compensation scheme regulators and owners be wrangled into agreeing to such an initiative? Support from the medical colleges and representative bodies would certainly help. I think this is a four or five year project. The concept is similar to the creation and adoption of consistent national Work Health and Safety legislation (although as far as I know Victoria is still a hold-out on this).

4 Building on our successes

This section has a few personal observations and thoughts on how we can improve the effectiveness of our schemes based on a solid conceptual basis.

4.1 The battle between ideology and sustainability

My 40 year history is replete with situations where on the one hand, stakeholders approach scheme changes based on what they regard as 'the right thing' or 'the best thing' to do for injured people. On the other hand there are stakeholders who focus on the 'sustainability' (meaning low and stable cost) of schemes.

How can we normalise and legitimise this debate so that decision-makers are well informed? Presumably it will require a shift from the 'battleground' of interest groups to a more considered social assessment. Who would be in a position to make informed and respected assessments of this kind?

My old work on Predicting Accident Compensation Costs is directly on point for this question.

4.2 What does sustainability mean?

My colleague Aaron Cutter and I spent some time on this question a few years ago. Sadly I could not lay my hands on the old documents in time for this paper, but if there is any interest I may be able to find it and either send to individuals or include it in a revised version.

Two of the key ideas that I do recall are:

- Sustainability means the ability to maintain a scheme over a long period without financial crisis and without a need for cost-reducing reforms

- That a key is meeting expectations of various stakeholders, which leads directly to the question of whether expectations can indeed be managed and to the famous actuarial formula:

    - SATISFACTION = PERCEPTION - EXPECTATION

Your satisfaction about an experience is a function of how you perceive you were treated relative to the expectations you had at the start. Maybe it is not a bad thing for many people to expect that a journey through a compensation claim will be hard going?

4.3 Kind or strict?

The operation and management of a compensation scheme could be characterised somewhere between 'kind' and 'strict'. Different adjectives may be used and I think it is important not to start with words that carry connotations of 'good' or 'bad'. I actually don't think that 'kind' and 'strict' are great choices, but please remember that actuaries are meant to be good at numbers not words.

The point I want to make is that there is a very large difference between the cost of a scheme that is 'kind' and one that is 'strict'. This is rarely set in legislation, but is based on the culture, guidelines and processes of the scheme operators.

Is this obvious to anyone involved with accident compensation?

Why is it that nobody is prepared to say so?

Schemes change their approaches, sometimes based on political requests, sometimes on the personal attitudes of leaders and Directors and sometimes because of the influence of other institutions.

I was particularly struck by the interventions of the Ombudsman in Victoria's WorkSafe. The Ombudsman prepared a couple of reports and came out very strongly saying that the operation of the scheme should become much more kind and (correspondingly) less strict in various ways.

My suspicion is that this intervention, along with the response of government (totally supporting) and of WorkSafe, was a 'significant contributing factor' (to use a famous term) in the deterioration in financial results of the WorkSafe scheme between 2020 and 2024.

4.4 The main determinants of scheme outcomes

I have often used a 'four quadrant' model to describe the factors that will work together to influence scheme outcomes.

1. Legislation – both the compensability boundaries and the benefit entitlements

2. Management – how effectively those responsible for managing the scheme (i.e. insurers) undertake all their roles

3. Dispute resolution – the structure, rules, effectiveness and cultures in the dispute resolution system (importantly this is not the insurer)

4. Cultures and behaviours of scheme stakeholders – not only claimants, but all the people that advise and support them – doctors, lawyers, rehabilitation providers, employers, etc.

The scheme outcomes are not set by the legislation or rules. There is a complex 'eco-system', and it is critical to apply 'systems thinking' to the issues.

At the end of the scheme design and monitoring process, the critical influences are behavioural. Ignore this way of looking at accident compensation at your peril.

If you have reached this page, thank you for your interest, and I hope I can stimulate some different thoughts for you.

PREDICTING ACCIDENT COMPENSATION COSTS
or "The Temptation of Wishful Thinking"

by

Geoff Atkins BA, FIA, FIAA

"I generally avoid temptation unless I can't resist it"
(Mae West 1940)

1. INTRODUCTION

*"**Future** (noun): That period of time in which our affairs prosper, our friends are true and our happiness is assured"* (Ambrose Bierce, The Devil's Dictionary, 1911).

This article presents a series of observations about the *process* of attempting to predict the costs of an accident compensation scheme, such as workers' compensation or motor bodily injury insurance.

We are dealing with the future. Much is unknown, and unknowable. One must be vigilant against the powers and temptations of *wishful thinking* in the context of predicting accident compensation costs:

1. The long tail nature of claims provides ample opportunity for wishful thinking since measurement of past costs is very uncertain.

2. The political environment in which we work increases the risks - there is a strong political desire to satisfy the conflicting needs of various constituencies.

3. The ultimate financial risk is, at the end of the day, usually not carried by the decision-makers.

4. As a consequence, the temptation to let wishful thinking creep in may not be resisted.

The consequence of wishful thinking during the costing process is charging too little for the product. Such problems can be ignored for a time, but the pain of resolving these problems can be considerable. In fact, this pain can lead to a repetition of earlier mistakes under a different guise.

2. LAWS OF CLAIMANT BEHAVIOUR

"Men are not against you; they are merely for themselves"
(Gene Fowler, 1967)

There are some aspects of the behaviour of claimants which must be considered realistically, if the traps of wishful thinking are to be avoided.

Law 1: Claimants behave rationally with respect to economic incentives

This behaviour of claimants is easy to explain and easy to understand, but can be ignored in the complexity of social arguments. Put simply, the higher the benefits, the more avidly claimants will seek them. Claimants will not return to work for the same (or less) money than they got to stay home.

The main implication for costing is that utilisation of benefits increases as the level of benefits increases. For weekly benefits, in particular, the number of claimants remaining on benefit can be expected to increase as the "replacement ratio" (benefit to net pre-injury earnings) increases.

Law 2: Claimants behave opportunistically and with guile

This law indicates that claimants will modify their behaviour to improve their economic position in a claim. They will exaggerate symptoms, fail to take work opportunities and display standards of behaviour that in some circumstances may be considered dishonest or of questionable morality.

Such behaviour is widely condoned in our community where the "victim" is seen as remote from the ethical standards of the perpetrator. The tax office is fair game; in fact minor tax fraud is often seen as a desirable ethic. Insurance companies are similarly seen as institutions with which dealings need not be too moral. The more remote the system, the further claimants will stretch the bounds of morality.

The statements above do not apply to all claimants and do not imply any judgement on my part as to the "rightness" of this behaviour. I do suggest, though, that this behaviour is part of our social fabric, and that it is simply unrealistic to ignore it in considering possible future claims experience.

The implication of Law 2 is that "tough" systems for benefit delivery and administration are essential if costs are to be controlled. The degree of "toughness" of a future system is a very subjective matter, and is fertile ground for wishful thinking.

3. LAWS OF POLITICAL BEHAVIOUR

"Those who govern, having much business on their hands, do not generally like to take the trouble of considering and carrying into executive new projects. The best public measures are therefore seldom adopted from previous wisdom, but forced by the occasion." (Benjamin Franklin, 1791)

Most accident compensation benefits in most countries are prescribed by statute. The law typically also has much to say about the methods of delivery of benefits, and the collection and use of funds required to pay the benefits.

Politicians, then, have ultimate power over our accident compensation systems. Their degree of influence in ongoing operations no doubt varies widely depending on the legal structure and the policies and personalities of those involved.

What does this mean for the actuaries? Because of our legal and political systems, we all must operate within the constraints of the political process and, on occasion, possibly with unwelcome political intervention. Whenever changes to a system are proposed, the extent of political activity and interest is usually much higher.

Law 3: Reforms to a system will always be said to save money

Much of the pressure on our accident compensation systems can be traced to unacceptably high costs. The response of politicians is, typically, to "reform the system". Unfortunately, the cost impact of changes is difficult to predict, and wishful thinking can take over. For more radical changes, cost estimates become more uncertain, and more wishful thinking can be entertained.

Law 4: Every reform will be said to eliminate inefficiencies in the system

At its most basic, the cost of the system is the total of the benefits provided and the administration expenses. Nobody wishes to reduce benefits, but savings in administration help everyone.

The temptation therefore is to state that all inefficiencies will be eliminated and that we can charge less as a consequence. The statement is very hard to disprove, and it is also very hard to implement in practice.

4. LAWS OF ACTUARIAL SCIENCE

"I always avoid prophesying, because it is a much better policy to prophesy after the event has already taken place" (Sir Winston Churchill, 1943)

It would be a great temptation for me to say that actuaries could solve all of the problems in predicting accident compensation costs. Unfortunately, such is not the case.

Law 5: Actuaries cannot predict the future

This law is a special case of one of the laws of the universe, namely "nobody can predict the future". Whilst predictions can be based on the best analysis of past patterns and trends, can incorporate the best experience and judgement, they remain uncertain. This uncertainty is simply the nature of the problem.

Thus advice from actuaries about the future costs of an accident compensation system usually includes significant qualifications. Actuaries recognise the uncertainty, and are forced to deal with it, in part by trying to explain the uncertainty to the client. Significant uncertainty about the future is a fact, and must be dealt with rationally.

Law 6: The grey area is very wide

Another way of expressing this statement is that outcomes may be very sensitive to certain variables, and hence uncertainty is great.

To be a little more specific, I believe that the actual claimants in any given part of a system may represent a relatively small portion of the potential claimants. Many people are less than 100% fit, but are capable of work if they wish to or are forced to work. Many of the injuries carried by these people are hard to objectively assess and can be viewed as disabling to differing extents. As a consequence, relatively minor changes in incentives or assessment procedures may produce significant changes in benefit utilisation.

My conclusion from the statements above is that actuaries are not immune from the temptation of wishful thinking, and hiring an actuary does not guarantee protection from wishful thinking. While the skill base and professional standing of the actuary are certainly required for the job, continual emphasis needs to be placed on objectivity, clear thinking and intellectual integrity, both by the actuary and his or her client.

5. KEY ISSUES IN DETERMINING COSTS

"Penetrating so may secrets, we cease to believe in the unknowable.
But there it sits nevertheless, calmly licking its chops". (H.L. Mencken, 1956)

In trying to assess the costs of an accident compensation scheme, the following items are among the most significant. In each case, some of the laws defined above come into play and wishful thinking needs to be avoided.

Definition and Scope of Coverage

The definitions governing the coverage offered by the scheme are very important. Of particular note are the extent to which diseases are covered, the scope of journey claims, the concepts of "work related", whether work is a "contributing factor", a "primary contributing factor" or a "sole cause", how disability is defined, etc.

Every widening of definition will add some claims to the system, and can be expected to be fully tested through the court system. The extent of workers' compensation claims for some back complaints, RSI-type complaints, stress related diseases and hearing loss may all vary widely depending on definitions.

Income Replacement Ratio

The willingness of a claimant to return to work depends in large part on the financial advantage in doing so. A balance must be found between fair benefits and incentives to work.

It is important to note that other sources of income must be considered, in particular make-up pay, but also sick leave, personal insurance and superannuation. A theoretical study needs also to allow for tax and the expenses associated with work, such as travel.

In the United States, the most common workers' compensation benefit level is two-thirds of pre-injury earnings (but note that benefits are not taxable). In the disability insurance field any benefit level above 70% of earnings is viewed as having high "moral hazard" (in other words, too much incentive to claim).

Partial Incapacity

The treatment of partial incapacity claims has a major bearing on cost. Very few injuries result in long-term total incapacity, while many result in some partial incapacity, either permanently or for long periods.

Generous treatment of partial incapacity - in particular payment of full benefits if the claimant is not working - will generate significant costs.

At the other extreme, some form of proportionate benefit, either related to the degree of incapacity or loss of earning power, is much less generous. In the U.S., for instance, the most common form of long-term partial incapacity benefit is a pension scaled down by the degree of incapacity. Pensions in the range of 10% to 25% of the maximum rate are very common.

Lump Sum

The issue of the availability and size of lump sum benefits is a very complex one. Careful thought must be given to:

- availability of common law benefits
- ability to redeem weekly compensation
- schedule benefits for permanent incapacity
- form and amount of benefits for non-pecuniary loss.

Beyond the rather timid assertion that lump sum benefits influence claimant behaviours, I fear we know little of their real impact.

Severity of Administration

The general topic of severity of administration is a broad one, and open to subjective interpretations, but will have a big impact on costs. It encompasses many things - claim acceptance and review procedures, dispute resolution, court attitudes, selection and motivation of personnel, surveillance, employer roles, etc.

In this area there is a great deal of scope for wishful thinking. An appropriate degree of "toughness" is difficult to define, more difficult to implement and almost impossible to measure. The laws of claimant behaviour, and Law 6 on the size of the grey area imply, however, that the subject warrants a great deal of attention.

6. CONCLUSION

"In giving advice seek to help, not to please, your friend"
(Solon, 7th Century BC)

The process of predicting accident compensation costs is a minefield of wishful thinking:

- the opportunity exists for wishful thinking
- key participants have incentives for wishful thinking
- in many areas, our knowledge and scientific evidence is abysmally thin.

I have defined a number of laws of claimant behaviour, political behaviour and actuarial science in order to draw out some of the issues and highlight areas where wishful thinking may be encountered. I have described briefly some key issues to be considered in assessing the costs of an accident compensation scheme:

- definition and scope of coverage
- income replacement ratio
- partial incapacity
- lump sums
- severity of administration.

Finally, I would like to offer my personal recommendations on the ***process*** of predicting accident compensation costs:

1. Avoid wishful thinking.

2. Employ an actuary with experience and integrity.

3. Involve the people who pay the bills.

4. Avoid wishful thinking.

5. Publish the results for public scrutiny.

6. Give protection from political intervention.

7. Be suspicious of interest groups.

8. Maintain a healthy scepticism.

9. Promote an atmosphere of honesty and intellectual integrity.

10. Avoid wishful thinking.