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12TH REVIEW OF THE EXERCISE OF THE FUNCTIONS OF THE MOTOR ACCIDENTS AUTHORITY

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Health Outcomes in Personal Injury Schemes: the urgent need to organise all that 'Big Data' to improve performance

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When the Law and Justice Committee met to review the NSW CTP Scheme in 2011 it heard evidence of a significant number of ongoing issues with health outcomes, efficiency and costs. It was clear to me as a former health professional working in insurance that government-funded compensation schemes create a 'ripple effect' when the universal and fundamental root cause of those issues is continually overlooked. I encouraged the Committee to include a technical angle in their reviews – the urgent need for scientific design of injury management practice to drive improved health outcomes across all injury groups.

I explained the solution involves much more sophisticated process design, more effective use of Information Technology, integration of claim and healthcare data in analysis, and expert research across injury segments. Initially this would significantly improve consistency of practice standards and outcomes. Over time it would develop the quality and quantity of evidence-based best practice that premium payers, claimants and service providers could reasonably expect from the management of such large volumes of claim information. I advised that my firsthand experience of the limitations of current practice and lack of industry innovation had prompted me to work on the solution myself - a standard of injury management process design consistent with the 'information age' we're living in. This is what underpins a capability for effective and efficient use of information to measure and improve performance.

At the conclusion of that review the Committee recommended "that the Motor Accidents Authority identifies the development of health outcomes performance measures as a priority work area" (Standing Committee on Law and Justice, Eleventh Review of the exercise of the functions of the Motor Accidents Authority and the Motor Accidents Council, December 2011). Two years on I appreciate the invitation to make a submission to this successive review as I near completion of the design objective for my own work. Scheme progress and future plans in this area should now be examined to determine whether they are an adequate response to the Committee's intention; what will be achieved in measuring and improving health outcomes, efficiency and costs over the next two years and beyond as a result of government-funded projects underway? How are outcomes being improved across all injury groups as a result of measurement? What tangible changes in practice have occurred as a result of health outcome measurement? How will new standards be

maintained? In short, is the direction, scale and progress of this priority work in line with the most efficient, practical and sustainable solution for improving scheme outcomes?

The worldwide trend for effective performance measurement is to focus on 'Big Data'. Organisations across all types of industries have understood that the most efficient and sustainable method of improving outcomes and productivity is to use their big data more effectively. This concept of 'big data' does not have a definition as such but recognises that when large volumes of information are a natural by-product of business processes, it can and should be used for the purpose of identifying problems and improving performance. The old adage 'every cause has an effect' applies; you can't stop repetition of undesirable outcomes without at least having visibility of the events that cause them. The quality of big data for performance measurement is therefore intrinsically linked to the sophistication of the underlying business process design. Any attempt to understand cause and effect is limited according to the way information was originally collected. In a personal injury context this means claim information management is extremely outdated despite significantly improved IT capability for data collection and predictive analysis. The lack of comprehensive upfront design for all that information severely limits the value that can be derived from it for performance measurement and improvement.

For example, imagine trying to understand variations in the health outcomes achieved for whiplash claims. Consider the measurement and research capability when critical information related to treatment, recovery and claim decisions is buried in file notes or documents. Then consider what is possible with upfront design of standardised data capture for large scale expert analysis and comparison with non-compensable whiplash injuries. The latter scenario is a scientific, research-enabled, efficient and sustainable approach that supports ongoing performance improvement as a natural by-product of managing large claim volumes. In other words, the ability to use meaningful health outcomes performance measures to inform and influence scheme-wide practice and results depends on good design and organisation of all that big data.

McKinsey and Company (among many others) have analysed the relevance of this concept to multiple industries in their 2011 publication *Big Data: The next frontier for innovation, competition and productivity* (McKinsey Global Institute, May 2011). This is a helpful reference for understanding the need for, and urgency of, improved use of big data to drive better outcomes. The report describes five ways in which effective use of big data creates value and therefore drives improvement (page 97 – 100):

1. **Creating transparency** – this is relevant to scheme big data in that there is a need to reduce information asymmetries between insurers, and between insurers and health care, to support meaningful health outcome measurement and analysis.

2. **Enabling experimentation to discover needs, expose variability, and improve performance** – this is relevant to any ongoing performance improvement process. That is, the ability to continually and efficiently analyse variations in outcomes, identify root causes of poor outcomes, modify distinct practices, then measure the effect.

3. **Segmenting populations to customise actions** – this is relevant to scheme big data in that there is a need to understand the cause of poor outcomes in distinct claim segments and implement customised evidence-based practice to improves them.

4. **Replacing/supporting human decision making with automated algorithms** – this is relevant to scheme big data in that there is a need to use evidence-based indicators to accurately identify high risk claims in real time so that they undergo more expert and specialised management to improve the outcomes achieved.

5. **Innovating new business models, products and services** – this is relevant to the need for data and performance measurement to be sensitive enough to drive increased competition amongst the very small number of insurers in the scheme, as well as driving innovation in injury management collaboration between insurers and health care providers.

The McKinsey Global Institute also speaks directly to government policy makers about the need to promote and enable improvements through effective use of big data (page 117):

> *Forward-thinking policy makers will keep pace with the development of big data and find timely solutions to the barriers that today stand in the way of capturing its full value.*
>
> *Government policy makers in many economies are already addressing, or at least discussing, these areas. This is a task that they must start to address with some urgency. Without appropriate rules, laws, guidelines, and incentives, the economies that are less progressive in these areas will risk being at a competitive disadvantage to those that appreciate the dynamics and value potential of big data.*

So while it is not the role of the Law and Justice Committee to conduct an expert technical review of the NSW CTP scheme, it can and should play an important part in influencing the type and depth of evaluation undertaken. The practical reality is that the outcomes achieved by personal injury schemes are enormously affected by the technical elements. Schemes oversee and/or manage large volumes of complex, detailed medical and legal information (from which significant decisions are made) and they involve many communication processes between multiple claim stakeholders. The one element linking all of this to the Committee's recommendation for health outcomes performance measures is effective design of all those processes generating the scheme's big data.