Work-related road safety good practice collaboration: Case study of Roche Australia

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Abstract

An increasing body of research, good practice and case studies from around the world suggest that work related road safety has the potential to make a major contribution to reducing the road toll. To date, however, there has been a shortage of well researched and evaluated case studies.

This paper describes a successful, ongoing real-world case study of an Australian company car fleet that has effectively managed, monitored and improved its road safety performance over the last four years through a range of proactive, fleet manager, insurance and risk-led initiatives.

The case describes the four key initiatives that Roche Australia has successfully implemented with support from its fleet insurance and risk management partners.

1. Driver risk assessment, monitoring and improvement program for all existing and new employees.
2. Policy development, review and enhancement.
3. Communications program.
4. Ongoing review and refinement of policies, processes and programs.

The project has led to a range of outcomes, including:

- Barriers to success identified and overcome.
- 100% risk assessment and improvement compliance by drivers, including streamlined process for effectively managing starters, leavers and changers.
- Reductions in collisions, insurance premium and to loss ratio.
- Predictive relationship between risk assessment outcomes and collision history.
- Thought leadership and external recognition from peers via formal and informal benchmarking and industry awards.
- Detailed project plan in place for next 3 years of program.
- Several lessons for policy makers, researchers and practitioners.

Keywords

Work-related road safety, driver risk assessment, Roche Australia

Introduction, background and method

Occupational road safety is an emerging issue, of significance for both road and occupational safety in many countries, including Australasian jurisdictions, where as many as 25% of the road toll involves driving as part of work, and a further 25% of the road toll involves commuting [1-5]. Similarly in Australasia a large proportion of fatal workers compensation claims involve driving for work [6].

Several Australian writers have proposed intervention models, including:

- Theory of planned behavior [7].
- Stages of Change Model [8].
- Fleet safety culture [9].
- Driver behavior measures and the DBQ [10].
• Systems based approach [6, 11], focusing on the driver, vehicle, journey and position of the organisation within society.

The main limitation of much of this body of research is that it has not been tested against road safety outcomes, and a recurring theme is that no outcomes data is available, or the project has not been sustainable in the long term. Wills [4] outlined some of the reasons why Australian organisations have failed, or been unable, to implement satisfactory safe driving programs. These include practical, organisational and economic barriers, which are often misunderstood and underestimated by researchers and consultants trying to influence practice. Even in the wider global context, with the exception of Salminen [12, 13] and Murray et al [14, 15], there are no recent well-evaluated, published or peer reviewed case studies of organisations that have effectively managed their occupational road safety. Most researchers still base recommendations on the widely-cited Swedish Televerket study [16] undertaken in the mid 1980s and never replicated since, or non-peer reviewed cases such as White and Murray [17].

The aim of this paper is therefore to help close an important gap in the research literature, by describing a real world case study of an Australian-based pharmaceutical company that has invested time and resources over several years in developing a long term, holistic systems-based road safety program, structured around the Haddon Matrix [5, 6], and focusing on managing drivers, vehicles and the journeys they make. To meet this aim, the following sections loosely adopt Robson’s Chronological Case Study methodology [18] to describe the project in detail, leading into discussion of a management-led approach to improving occupational road safety. Finally, and whilst acknowledging its own limitations, the paper seeks to identify some lessons learned for other organisations, researchers and policy makers in Australasia and beyond.

**Roche Australia case study**

Roche Products Pty Limited of Australia (Roche) is a pharmaceutical manufacturer and distributor, part of the wider global Roche company based in Switzerland. As a key element of its corporate social responsibility program, employee safety on the road is seen to be of great importance to the company all over the world. For this reason, the company is committed to promoting a heightened awareness and responsible driving behaviours amongst its people, aiming to gain the commitment of employees to prevent vehicle collisions, reduce personal injury, minimise property loss claims and protect the brand.

In Australia, the company has worked hard over the last four years to evolve a safe driving culture for its 650 staff, approximately 450 of whom drive as part of their work. To support this process, and protect the safety of its people while driving, Roche has evolved a systems-based approach, at the heart of which has been the ongoing development of fleet safety policy and the implementation of an online driver risk assessment, monitoring and improvement program with the support and endorsement of its insurer.

This case study describes four key initiatives Roche has undertaken in collaboration with its insurer and motor fleet risk management partner.

1. Implemented online driver risk assessment, monitoring and improvement program for all existing staff and new employees.
2. Policy development.
3. Communications program.
4. Driver risk assessment, monitoring and improvement program development.

**Driver risk assessment, monitoring and improvement**

Since starting the program in January 2005, Roche has successfully implemented an online driver risk assessment, monitoring and improvement program and supporting management information system (MIS). This was achieved with support from its motor fleet insurer, which had already been involved in research and product development for several years [19].
This approach enabled Roche to carry out driver risk assessments, and to monitor and improve the safety of all its employees that drive as part of their work. Roche also took the opportunity to roll out its Vehicle Safety Policy and Driver Licence Checks as part of the online program, allowing a seamless process for driver risk assessment, monitoring and improvement – achieving almost 100% compliance on each of the four online driver modules shown in Figure 1 for existing staff. New recruits also undertake the program soon after joining the organisation as part of their extended induction.

<table>
<thead>
<tr>
<th>Module title</th>
<th>Description</th>
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<tbody>
<tr>
<td>RoadRISK: Profile</td>
<td>15 minute 26 question online assessment of driver’s exposure to risk.</td>
</tr>
<tr>
<td>RoadRISK: Defensive Driving</td>
<td>20 minute 45 question online assessment of driver’s attitude, hazard perception, behaviour and knowledge.</td>
</tr>
<tr>
<td>One More Second</td>
<td>2 hour computer based training (CBT) program focusing on driver attitude and behaviour including 6 interactive modules and a 30 question knowledge check.</td>
</tr>
<tr>
<td>RoadSKILLS</td>
<td>Interactive CBT with 4 20 minute modules cover 60 city, country, highway and general driving scenarios.</td>
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</tbody>
</table>

**Figure 1:** Roche Australia online risk assessment, monitoring and improvement modules

The program seemed to have an immediate impact - generating discussion in corridors, over morning teas and at question times. Roche analysed and targeted high, medium and low risk areas, for the company as a whole by closing several policy gaps and at the individual employee level through targeted communications and other interventions. The outcomes provided both short and long term objectives, which were addressed by working closely with the insurer, risk management advisors and internal teams such as Human Resources (HR) and Occupational Safety and Health (OSH).

For example, one of the RoadRISK: Profile questions asked ‘Have you had an eyesight test within the last 12 months?’ Over 25% of employees answered ‘NO’. This was drawn to the attention of the HR department, who subsequently offered free eyesight tests to all employees – whether entitled to a company vehicle or not. In total, 138 employees took the opportunity to have their eyes tested, 64 required further examination and 28 required glasses. This is now an annual assessment process for all employees, and all new recruits also participate in the risk assessment, monitoring program as part of their induction process to help ensure we maintain our almost 100% compliance with the program (Figure 2).

**Figure 2:** Extract from online MIS showing program compliance levels
Although successful, the program was not without its barriers, which provide important lessons for other organisations. The main challenge to successfully implement online safety training was the expectation of the company’s fleet users that training would be ‘hands on’ under controlled conditions. For many employees, the perception of vehicle safety training would boil down to a ‘fun afternoon on a racetrack driving too fast’. Hence, the biggest challenge was to manage and change this perception.

The second challenge was to deal with the fact that people would find computer based safety training an additional task that would add to their already high workload. In addition, some employees showed signs of resistance due to the fact that they would be assessed on what they perceived as an ‘every day task’ that was unrelated to work.

It was important that prior to the implementation of the driver risk assessment, monitoring and improvement program, the initiative gained the involvement, acceptance and support of the Senior Management. Secondly, to manage peoples’ expectations and to enable them to plan their workload, emphasis was put on early communication that would outline the expected time that would be needed, as well as the end to end process.

Through this early and continuous information process, barriers were reduced by the fact that people understood that training would enable them to achieve better results in all their daily tasks.

**Policy development and communications**

As part of the program, Roche has also developed, implemented, monitored and improved its policies, procedures, processes, a comprehensive Company Drivers Manual, which is constantly under review and revised in line with global good practice, and ongoing communications including initiatives on:

- Collision reporting and investigation.
- Anti-lock brakes.
- Speed (Figure 3).
- Seatbelts.
- Alcohol.
- Fatigue (Figure 3).
- Holiday driving.
- Back pain and driver ergonomics.
- Journey management to minimise employee kilometres.
- Vehicle checks.
- Driving whilst pregnant.
- Tyre Safety video.

Such communications are formatted and circulated via many different channels, including:

- Company Drivers Manual and associated policies.
- Induction Process.
- On-Line via driver risk assessment, monitoring and improvement program.
- Interactive PowerPoint presentations.
- Video – CD & Intranet.
- Individual meetings with drivers
- Newsletters
- Emailed to drivers as interactive PowerPoint presentations, including those on speed and fatigue shown in Figure 3.
Results

Our research (5, 20) has identified the existence of a range of proactive (sometimes known as pre-collision or process), and reactive (or outcome/post collision), indicators, all of which are important for monitoring the success or otherwise of a fleet safety program. The initiative described above has improved road safety based on several proactive indicators, particularly driver risk assessment outcomes; and reactive indicators, including collision types and ratios.

With regards to proactive road safety outcomes indicators, one of the key reasons for adopting the driver risk assessment and improvement program was the availability of extensive university and industry-based benchmarking and evaluation data [eg see 19]. Such proactive, or pre-collision, external validation data provided Roche with the initial confidence to use the outcomes from its driver risk assessment to successfully identify, manage and improve its drivers. Once this initial risk assessment process had been undertaken, the company was able to generate its own internal data. Based on the first 422 Roche Australia drivers to complete the online driver assessment, this identified a clear correlation between the assessment outcomes and the drivers’ self reported crash history (Figure 4).

Figure 4: Driver risk assessment evaluation outcomes

A second proactive indicator is the ‘reach and touch’ of a program. In the Roche case, the driver risk assessment, monitoring and improvement program provided a cost effective and quick way to influence each driver with specific interventions on four occasions over an 18 month period, and at the same time clearly identified the key areas of risk, as shown by the traffic light or RAG (red, amber, green) system in Figure 5. This process and the data from it, allowed the policies and communications programs described above to be effectively targeted, for example towards safer speed choices and fatigue management.
Such proactive, or process based, indicators are important, however, the ultimate reactive measure of the success of a program is in relation to ROAD SAFETY OUTCOMES. Based on data provided by its insurance underwriters, Roche has reduced all its major collision types (Figure 6), improved its loss ratio from 69% to 48% and cut its premium costs by 35%.

<table>
<thead>
<tr>
<th>Description</th>
<th>Difference between 2003 and 2007</th>
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<tr>
<td>Failed to yield</td>
<td>30% reduction</td>
</tr>
<tr>
<td>Hit Stationery object</td>
<td>35% reduction</td>
</tr>
<tr>
<td>Hit in rear by Third Party</td>
<td>20% reduction</td>
</tr>
<tr>
<td>Hit Third Party in Rear</td>
<td>40% reduction</td>
</tr>
<tr>
<td>Reversing</td>
<td>75% reduction</td>
</tr>
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</table>

**Figure 6:** Impact of program on Roche Australia’s collision data

As result of the program described above, Roche Australia was highly commended in the 2007 Brake Road Risk Manager of the Year and Company Driver Safety awards and won the Australasian Fleet Managers Association Safety Award in 2007. Roche also continues to receive insurer support for the program.

**Ongoing and future steps**

Despite the successful outcomes, Roche has continued to develop its program, processes and policies. As well as maintaining the initiatives described above, Roche has also focused on the following areas:

- Sustaining and maximising the driver risk assessment, monitoring and improvement process for all existing employees and new starters.
- Refining the systems-based approach, framed by the Haddon Matrix [5, 6] to develop new initiatives to reinforce corporate policy, including a revised mobile phone and electronic devices policy, revising the fleet safety policy, developing a vehicle selection policy and focusing on more proactive management of the ‘grey fleet’ – people driving their own vehicles on work business, and family members driving fleet vehicles.
- Designing and implementing new bespoke driver risk assessment, monitoring and improvement modules, including the development of an online Safe Driving Pledge, a Risk Foundation policy.
assessment to ensure program participants understand and comply with Roche policy (Figure 7), version 2 of the Driver Profile, newer online training modules, bespoke KPIs and detailed online collision analysis.

- Other parts of Roche around the world, including the UK and US implemented or are in the process of implementing similar programs.
- Engaging in external programs such as benchmarking (see www.fleetsafetybenchmarking.net) and road safety outreach through presenting good practice case studies [eg 17] to help other organisations learn from its initiatives.

**Figure 7:** Roche Australia’s new online Risk Foundation policy knowledge check for drivers

Roche has also been one of the first organisations the authors are aware of in Australasia to embrace data protection management by introducing a Privacy Notice for drivers to explain all the privacy issues affecting them and their personal data. Given the sensitive nature of the data involved in fleet safety - including collision records, licence violation records and health data - for many organisations around the globe the management of driver privacy is one of the key emerging barriers to implementing a successful program at this current time. Roche’s proactive approach to managing and overcoming this issue is an important step – which others will need to follow.

**Discussion and lessons for researchers, policy makers and practitioners**

Roche has been proactive in targeting and improving its road safety performance by working with its insurer and risk management partner to implement a detailed online driver risk assessment, monitoring and improvement program that reached out to and ‘touched’ all drivers.

A potential limitation or criticism of the program described rests on the fact that it is difficult to identify the likely impact of each individual countermeasure. For example, how important is the risk assessment program, the training interventions, the communication channels used, the focus on the issue by the fleet manager or sponsorship from the insurer? These influencing factors are impossible to quantify in this type of case study-based program. Despite this, however, recent research on occupational road safety [5, 6, 11], and worldwide experience over many years [14, 15] suggests that there are ‘no golden, silver, bronze or even lead bullets’. Instead, combinations of cultural, management, driver, vehicle and journey, as well as societal, factors are important, based on adopting a systems-led approach.

The case provides several important lessons that researchers, policy makers and managers in other organisations can learn from - particularly, that the attitude and aptitude of managers in organisations are vital to the success or otherwise of a fleet safety program. In this case, and in every case the authors have
been involved in during the last 20 years, committed management champions at all levels have been important in overcoming the many potential barriers that exist to improving safety. Typically, these are individuals who have identified the problem, and engaged the organisation and their colleagues to assess the risks and overcome the barriers to develop targeted safety programs.

The case also offers lessons for policy makers, suggesting that occupational road safety is an opportunity to target a large number of drivers through the workplace. Many authors cited throughout this paper have recommended how this could be undertaken at both policy and organisational levels, with the systems-based approach, focusing on drivers, vehicles and journeys, and the role of the organisation in society, very central to current good practice thinking [5, 6].

One particular area for policy makers to explore in more detail is the potential of risk assessment and benchmarking as a method of identifying in detail the DNA of organisations like Roche for improving safety outcomes. What do they have in common? What have they done? What can others learn from them? The UK Department for Transport Fleet Safety Benchmarking program is a good example of how policy makers can successfully adopt this approach (www.fleetsafetybenchmarking.net), which has so far engaged over 500 organisations employing well over 200,000 people that drive as part of their work.

Although all fleets are different, the authors have no doubt that the initiatives and programs introduced, or engaged in, by Roche in this ongoing program are highly replicable and adaptable to others – and have been used successfully around the globe by many organisations already. The case also helps to add weight to the quote commonly heard in safety circles that ‘long-term successful organisations are safe – and long-term safe organisations are successful’. Roche has clearly benefited from adopting this longer-term process driven approach to managing the road safety of its vehicles and drivers.

Conclusions

The paper has described a case study of Roche Australia, which has implemented various management-led programs to risk assess, monitor and improve the road safety performance of employees who drive as part of their work. The case helps to address an important gap in the research literature, policy and industry practice. Management leadership, risk assessment, targeted driver improvement through engagement and communication, supported by detailed monitoring of outcomes all appear to be important success factors.

As well as showing a major commitment to road safety, the Roche program can also be seen to be innovative in many ways:

- Application of online driver risk assessment, management and improvement tools to fleet safety in Australasia.
- Research-led approach based on independent evaluations and Roche’s own internal data.
- Extensive RAG-based MIS allowing data visibility, with results easily centralised, analysed and actioned.
- Online system developed to include own policies, licence checks and methodology to effectively risk manage starters, leavers and changers.
- Highly cost effective - by targeting risks in a standardised way, allowing employees to receive a large element of their recruitment, induction, risk assessment and corrective training before they and their trainers are exposed to the risks of the road.
- Ongoing, long terms sustainable partnership based approach between Roche, its fleet insurer and risk management advisors.
- Openness to share and engage in outreach programs to help improve road safety in the wider business community.

The paper has also highlighted several key success factors, lessons and potential barriers from which others can learn and seek to emulate. Although not without some limitations, particularly around the quantification of individual interventions, the case has identified many good practice ideas for researchers, practitioners and policy makers. It also provides a template for turning research on
occupational road safety into practice, and feeding good business practice into research. In the absence of the resources required to fully replicate the Swedish Televerket study [16], Robson’s chronological case study approach [18] appears to be an effective, if more basic, research model.

References