Understanding effective enforcement tools in work health and safety

NSW GOVERNMENT

Centre for Work Health and Safety

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Understanding effective enforcement tools in work health and safety:

- Prosecutions
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- Penalty notices

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Executive summary

Work Health and Safety (WHS) regulators have the discretion to use a variety of tools to influence compliance with the rules and regulations. The National Compliance and Enforcement Policy (NCEP) guides the enforcement decision-making in Australian WHS jurisdictions by recommending proportionality between the severity of the enforcement and the risk or seriousness of the offence. In addition, it recommends considering duty-holder characteristics, e.g. compliance history and attitude, the risk of reoffending and the likely impact of encouragement and deterrence as part of the decision-making process. While the NCEP provides a sound foundation, its key principles will only be effectively implemented if structured frameworks are available to guide how considerations and assessments should be made.

To assist Australian WHS regulators with decision making and intervention design that effectively deter reoffending and encourage compliance, our research sought to better understand:

1. The frameworks guiding decision making and the use of enforcement tools.
2. The differences in the use of enforcement tools among Australian regulators.
3. The characteristics, mechanisms and evidence of the enforcement tools causing behaviour change.
4. The effectiveness of the tools
   - as perceived by the inspectors that impose them,
   - as perceived by the businesses that receive them, and
   - as reflected by the rate of reoffending.

As there are many tools in the regulator's tool box, the current study focused on prosecution and its main alternatives; enforceable undertaking (EU) and penalty notice (also known as on-the-spot fine, infringement notice or expiation notice).

Method
An effort-based literature review of the most relevant and available literature was undertaken to better understand the use and the factors that influence the effectiveness of the selected tools. A survey was distributed to representatives of Australian WHS regulators to gain an Australia-wide perspective, while a more detailed understanding of the interaction between use and effectiveness was explored using data from New South Wales (NSW). Interviews were completed with 15 key informants from the NSW WHS regulator, SafeWork NSW, selected based on their seniority and expertise pertaining to the selected enforcement tools and the informant's function within the regulator. We also interviewed 11 individuals responsible for WHS in NSW businesses, purposely selected based on their individual experience with; 1) prosecution, 2) EU, 3) penalty notice (and other notices), or 4) no WHS enforcement. Moreover, we explored the likelihood of reoffending for each selected tool by statistical survival analysis of SafeWork NSW data.

Results
Enforcement decision-making by Australian WHS regulators is primarily guided by the NCEP, which incorporates principles of responsive and risk-based regulation. It recommends being responsive to the duty holder and to tailor interventions that target the duty-holder's motivations as well as needs, learning styles, abilities, and strengths. This has proven an effective way to influence behaviour and reduce offending. However, limited resources and external pressures necessitate risk-based prioritisation of regulatory resources such that the response matches the estimated level of risk at an individual and situational level as well as the regulator's priorities and objectives.

While all Australian WHS jurisdictions are signatories of the NCEP and generally see their approach as aligned with its guidance, all have adapted implementation to their own circumstances. Alterations in the use of the selected tools seem primarily related to differences in risk-based priorities; the offences defined as "most serious" and the propensity to pursue these matters in court. Where matters are not serious enough, or for other reasons do not warrant prosecution, the regulatory response varies between continued engagement and further remedial actions, to complementing engagement and remediation with penalty notices to reinforce the seriousness of the offence.

The NCEP and its supporting event-triaging framework help regulators assess the risks in the workplace, define the seriousness of the offence and decide the initial response. However, less

national guidance is available for assessing the risk of reoffending, capability to comply, characteristics influencing encouragement and deterrence, as well as how to link these to the use of specific tools. This combined with a general lack of high-quality data in the WHS-field cause decision-making to be more qualitative than quantitative in nature. While this allows flexibility, dependence on the professional judgement of inspectors and senior officers of broad assessment criteria counters the NCEP's aim of consistency in assessment and application of enforcement tools.

The lack of high-quality data is also reflected in the literature, making it uncertain as to what extent the use of enforcement tools in WHS is informed by evidence. Similarly, while the evidence for using enforcement tools in other areas of law is somewhat larger, the findings may not be directly applicable to their use in WHS. Substantial socio-legal, psychological and behavioural literature, however, supports the mechanisms by which enforcement tools influence behaviour. This suggests that a deeper understanding of the tools, their operational theory and the motivational factors they target could provide guidance on the data regulators need to consider when designing interventions to more effectively encourage and deter duty holders and reduce their risk of offending.

Our literature review identified that enforcement tools cause behaviour change by targeting duty-holder motivations. These motivations can broadly be classified as economical, legal, social and normative. Education, as preferred by responsive regulation, is therefore a cost-effective tool as it teaches the duty holder the economic value of proactive WHS management, justifies the regulations and the authority of the regulator, and raises awareness of the expectations of the community on the duty holder to do the right thing. When adapted to the duty holder, education can be an effective tool to change attitudes and assist building desire, knowledge and capability to comply. In contrast, when the duty holder is unaware of its non-compliant behaviour, has a poor attitude or is driven by negative motivations, it may be safer and more resource-efficient to use sanctions and target motivations not only via encouragement but also via deterrence. Examples include situations where non-compliance is profitable (economical), the rules and the regulator are dismissed as unfair or unimportant (legal), the industry has a poor WHS culture (social), the duty holder is isolated from compliant others (normative), or the regulated activity carries great actual or potential harm (high-risk).

In part, the motivations and responsiveness to enforcement differs among subgroups of duty holders in predictable ways. For example, as listed in the NCEP, compliance history correlates to risk of reoffending with first-offenders generally being more responsive to enforcement than serial-offenders. Business size is another correlate. Small businesses tend to have less resources and experience a proportionally larger financial and emotional impact from a sanction than a larger business would. Similarly, large businesses tend to be more concerned with impacts on reputation and competition than direct financial costs. Moreover, decision-makers in larger businesses are often further removed from local WHS issues and tend to feel less responsibility and legal duty. Similarly, industry affiliation is a central factor as social and normative pressures depend strongly on the WHS culture of the duty holder's companions.

In addition to these specific risk factors, assessment of general responsiveness helps identify the focus of the intervention. This includes identifying whether the duty holders have accepted the non-compliant behaviour as a problem that needs to be addressed, if they are open to support and ready to take action, or if they have already taken action but struggle with maintaining compliance.

While limited, the data we collected from NSW as part of the current study support the importance of the specific responsiveness factors identified in the literature. The participating regulators highlighted the difficulty of securing compliance with recalcitrant serial-offenders, reaching distant directors and designing sanctions that are sufficient to induce action in larger corporations. The participating NSW businesses similarly argued that the priority paid to WHS differs among industries and therefore require different levels of intervention severity. However, since the tools form part of an overall approach, the NSW businesses found it difficult to delineate when each tool should be used. Instead they emphasised fairness, referring to proportionality with compliance history, attitudes and efforts taken by the duty holder to fulfil their duties. The NSW businesses identified easier access to information on how to comply as the main gap in the current approach, whereas the WHS regulators asked how to leverage publicity in a responsible way; how to balance stakeholder pressures with evidence from research; and how to accurately measure intervention success.

When asked about effectiveness, all participating regulators perceived their approach as effective, referring to falling rates of incidents, fatalities and insurance claims. This was independent of whether they considered their approach as more or less punitive than that of others. The NSW businesses generally reported that they perceived the enforcement to have been carried out in a positive and professional way, leading them to self-audit, re-evaluate and revise their wider practices and systems in the longer term. Similarly, enforcement experiences were often known about within their industries and communities, primarily shared informally by employees, sub-contractors and suppliers to affected companies. This generated opportunities to discuss and better inform themselves about WHS, alerting them to changes they were unaware of, relevant regulator activities, and potential new hazards to look for in their own operations.

Quantitative analysis of NSW data demonstrated difference in reoffending rates among the selected tools, particularly for medium-level offenders (<9 per year). Those who had been prosecuted had the lowest level of reoffending, followed by those with an EU or penalty notice, and improvement notices. Those with prohibition notices consistently had the highest level of reoffending. Compared to the overall analysis (not considering compliance history), medium-level offenders had a higher likelihood of reoffending whereas first-offenders had lower likelihood. The analysis also found that, regardless of the first enforcement type, reoffending was minor as it primarily led to an improvement notice. While these analyses contain limitations in relation to data quality, sampling and definitions, the analyses suggest that less forceful tools, as currently applied, carry higher likelihood of reoffending. However, reoffending tends to be minor. The analyses also demonstrate a useful method for evaluating the effectiveness of the current use of enforcement tools as well as for the identification of risk factors to consider as part of decision-making to reduce the likelihood of reoffending. Here, we demonstrated that compliance history is an important factor in NSW.

Conclusions and recommendations

With regards to the limitations of this study, the current approach to WHS in Australia and NSW effectively reduces reoffending by targeting closely-held, positive motivations of duty holders. This is preferably done via education and support. However, the use of sanctions allows a means to more strongly target motivations in a resource-efficient way when the risk or actual harm is high or the duty holder is driven by negative motivations.

To use enforcement tools more effectively, regulators could expand the current decision-making frameworks to include guidance on assessment of factors relating to attitude, responsiveness and risk of reoffending. For example, regulators could design interventions that combine tools and activities to target the four broad motivations from different angles. Examples that emerged as part of the current study included using a business' WHS enforcement record as a performance indicator in the tendering process for government-related work and using penalty notices to reinforce the importance to act following awareness campaigns on priority issues.

Regulators could also consider specific risk factors, in addition to compliance history, to help link workplace risk, attitude and motivation to specific tools. Example factors to consider include business size; the priority and personal sense of duty decision-makers place on WHS, and the ability to absorb the cost of the sanction, if given. Moreover, industries may require differently designed interventions based on their differing WHS culture and level of risk.

Regulators could also consider the general responsiveness of the duty holders to determine the focus of the intervention - whether it is to convince that non-compliant behaviour is a problem, to motivate knowledge and capacity building, to motivate commitment and action, or to motivate maintenance of compliant behaviour.

Including these considerations as criteria in the NCEP would result in a more comprehensive framework for decision making and the use of enforcement tools. As quality data becomes more accessible, including these factors as part of an actuarial tool will provide more accurate, consistent and reliable assessment of duty holder circumstances and risk of reoffending. This could lead to better designed and implemented enforcement interventions that are appropriate and effective in reducing offending, securing the health and safety of workers and workplaces in Australia.

The author recommend that:

1. The NCEP could be updated to include the consideration of economical, legal, social and normative motivations such that regulators design interventions that consider multiple or all four motivations.

2. In addition to compliance history, the NCEP could also recommend regulators consider general and specific responsiveness factors to ensure interventions effectively target motivations and reduce reoffending behaviours. Examples include: business size, organisational structure and industry affiliation.

3. Further research could be undertaken to identify more risk factors and explore data sources and the potential of an assessment tool to assist prediction of reoffending and impacts on encouragement and deterrence.

Furthermore, our literature review also identified the following specific aspects of the effectiveness of the selected tools and therefore require further attention:

Prosecutions

- Venue: Industrial vs. District Court, and the application of sentencing guidelines.
- Willingness to prosecute: The preference for support vs. deterrence among jurisdictions and inspectors.
- Purpose: Balancing punishment and deterrence.
- "Phoenixing": A way to escape prosecution by re-establishing the business in another form.
- Role of the victim: The use of victim impact statements.
- Non-monetary sanctions: Follow the example of EUs and increase the use of restorative justice in sentencing.

Enforceable undertakings

- Perception of fairness: Perception as a viable alternative for the PCBU: fair procedure, outcome, and interaction.
- Cost: Control over outcomes in exchange for potentially higher cost, effort and time.
- Content: Balancing consistency with creativity and innovation.
- Accountability Accountability and flexibility in decision-making and monitoring by PCBUs and regulator.
- Timing: When and how the duty holder learns about the alternative of an EU.
- Third party voices: Sourcing and incorporating the views of relevant third parties in the EU process.

Penalty notices

- Amounts: The size of the penalty and proportionality to the individual and the situation.
- Offences: Appropriate offences for the use of penalty notices.
- Insurance: Possibility to tax-deduct or take out insurance to cover the costs of financial penalties.
- Delivery: Sending the right message to encourage sustained behaviour change.

Introduction

A regulator is an independent government agency with statutory authority to enforce the rules and regulations under the laws it administers [1]. A variety of enforcement tools enables the regulator discretion to tailor its response to the circumstances of the duty holder to effectively influence attainment of compliant behaviours [2, 3]. While such a strategy may cause similar offences to result in different enforcement outcomes, it ensures that each situation and duty holder receives the response most likely to change behaviours in a cost-effective way, providing maximum benefit to society at large.

The approach of most regulators includes; 1) a combination of positive motivators to encourage compliance; 2) education to assist capacity building and knowledge on how to comply; and 3) a range of increasingly severe sanctions to punish and deter non-compliance. There has been longstanding debate regarding which aspect should receive most attention; whether to encourage to support compliant behaviours or punish to deter poor performance [4-7]. In more recent times, the debate has matured and contemporary regulation theory acknowledges that the most effective approach is likely the one that is flexible and responsive to the motivations and characteristics of the offender and their situational circumstances. This ensures the enforcement tools used are the ones the offender will most likely respond to.

This approach is known as responsive regulation and can be illustrated by a pyramid model (Figure 1, left; [8]). The shape of the pyramid refers to the proportion of duty-holders most receptive to each severity level of enforcement. The wide base illustrates the tendency of most people to be righteous and have a desire to be lawful. Non-compliance among these offenders is generally a result of lack of knowledge or capacity. Providing education and support is therefore often sufficient to achieve long-term compliance [8]. The narrowing of the pyramid refers to the fact that some people are less righteous and less receptive to the normative pressures of society to be lawful. These require stronger warnings to implement compliant behaviours. Some of these duty holders may also be more calculating and realise the benefits of their non-compliant behaviours. In these instances, a sanction is required to make the non-compliant behaviour too costly to continue [5, 6, 9]. The very top of the pyramid is reserved for the most serious offences and the most dangerous offenders where severe sanctions and temporary or permanent incapacitation is required to protect society from harm [10]. This could include cancelling licences to operate or jail time.

At the other end of the compliance spectrum is the pyramid of supports to encourage compliance (top half of the diamond in Figure 1, right). Like the enforcement pyramid, the pyramid shape refers to the need of majority of duty holders for advice and education on how to improve specific strengths and build capacity. As strengths are built, the pyramid suggests a suite of strategies to encourage continuous improvement and compliance that is well beyond minimum standards [11, 12]. These range from informal praise on progress, to incentives, formal recognitions and awards. The recently proposed diamond model (Figure 1, right; [11]) effectively joins the two pyramids base-to-base into a continuum of desired behaviours; from incompetent and dangerous, to law abiding, virtuous and aspirational.

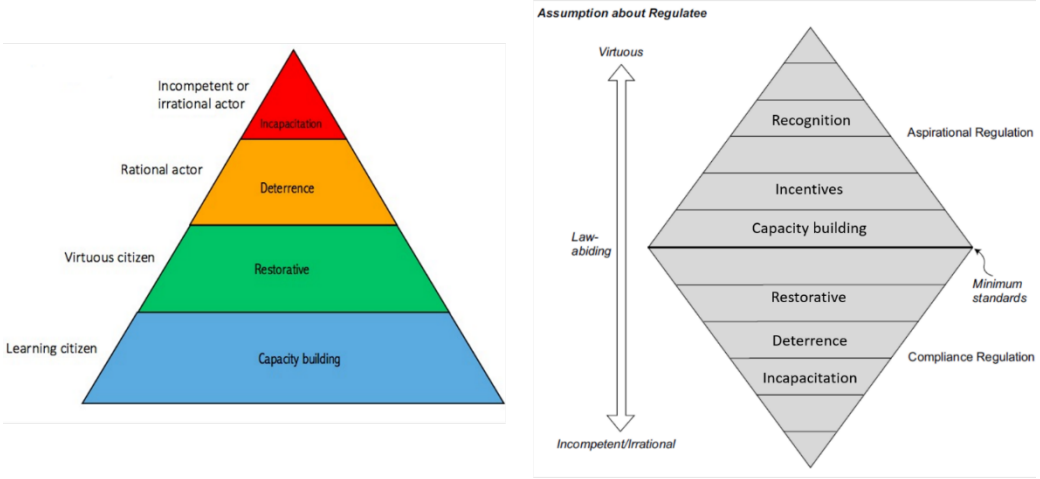

Figure 1: Responsive regulation model: **Left:** the Ayres and Braithwaite pyramid (http://johnbraithwaite.com/responsive-regulation).
Right: The diamond model (modified Figure 4 from Kolieb 2015 Monash UL Rev. 41(1): 136-162.

The responsive regulation model has become a cornerstone in contemporary Work Health and Safety regulation (WHS; [11]) and the adoption of the pyramid model can be seen across a wide range of regulators internationally [10]. While these models have been built on robust evidence from the behavioural literature, there is limited evidence to support that the compliance and enforcement tools and the approach are effective in delivering the intended results in practice [13]. A reason for this may be that each regulator operates in a different environment with fluctuating internal and external pressures, such as political climate and resource availability. The regulators therefore adapt the approach and use of enforcement tools in accordance with their individual circumstances, experience and priorities [14]. This variation complicates the comparison of effectiveness of tools among jurisdictions as well as the generalisability of findings outside the jurisdiction where the study occurred. Furthermore, each tool operates as a component of the overall responsive approach complicating conclusions around causation and the evaluation of individual tools [15].

A significant step towards a nationally consistent and effective approach to WHS enforcement was taken in the years leading up to the development of the 2011 national model WHS law and regulation. While some jurisdictions have yet to implement the model laws, all jurisdictions have agreed to a harmonised approach to compliance and enforcement [16]. The National Compliance and Enforcement Policy (NCEP) was developed to provide key principles and criteria to consider when determining which situations require regulator response and what that response might look like [17]. The policy builds on responsive regulation and risk-based prioritisation of regulatory resources and therefore recommends proportionality between the severity of the intervention and the risk and seriousness of the offence. It also endorses consideration of duty-holder characteristics, e.g. compliance history and attitude, as well as the likelihood of reoffending and the impact on encouragement and deterrence in the decision-making process. While the NCEP provides a sound foundation for decision making, the key principles and criteria will only be effectively implemented if structured frameworks are available to guide a consistent approach in how considerations and assessments are made.

To assist Australian WHS regulators with decision making and intervention design that effectively deter reoffending and encourage compliance, our research sought to better understand:

1. The frameworks guiding the decision making and the use of enforcement tools.
2. The differences in the use of enforcement tools by Australian WHS regulators.
3. The characteristics, mechanisms and evidence of the enforcement tools causing behaviour change.
4. The effectiveness of the tools
   - as perceived by the inspectors that impose them,
   - as perceived by the businesses that receive them, and
   - as reflected by the rate of reoffending

Since there are a wide range of compliance and enforcement tools available to WHS regulators, the current study took a wide perspective on enforcement decision-making but focused only on the tools at the top of the regulatory pyramid (Figure 1, left), namely prosecution and its primary alternatives; enforceable undertaking (also known as WHS undertakings; EU) and penalty notice (also known as on-the-spot fine, infringement notice or expiation notice). The report also compares the effectiveness of penalty notices in comparison to lower-level administrational/remedial notices (improvement notices and prohibition notices).

Method

Literature review – understanding enforcement tools

To explore the operational theory and evidence informing how enforcement tools should be used to have maximum impact on duty holders, we conducted an efforts-based review of the most recent, relevant and available academic literature, influential government reports and policy documents on each of four topics:

1. Enforcement decision-making frameworks
2. Prosecutions
3. Enforceable undertakings
4. Penalty notices

We limited the effort of locating literature to one experienced researcher spending five working days per topic.

Survey – the use and perceived effectiveness of enforcement tools in Australia

To gain an Australia-wide perspective on the use and perceived effectiveness of enforcement tools and decision-making, an electronic survey was emailed to the representatives of each WHS regulator in Australia participating in Safe Work Australia's Strategic Issues Group for WHS (SIG-WHS). The survey (Appendix C) contained nine questions pertaining to three main themes:

- How enforcement tools are used in their jurisdiction.
- How effective they perceive the tools to be.
- Whether evaluation or improvements have been made to their enforcement approach and why.

Four participants provided their responses within the 3-week response period. Responses were analysed for common themes and identification of influential factors.

Interviews – the use and perceived effectiveness of enforcement tools in New South Wales

To gain a more detailed understanding of the interaction between use and effectiveness, we explored data from NSW. Interviews were undertaken during May and June 2018, with officers at the NSW WHS regulator, SafeWork NSW, and with individuals responsible for WHS management at NSW businesses.

We set out to explore their perception of how enforcement tools are used, the interactions between the regulator and the duty holder, and how effective the tools are perceived by those who issue them and those who receive them. We also sought to identify whether the enforcement tools had impacted on the behaviour and attitudes of duty holders and their wider industry networks.

While individual workers may be the target of penalty notices, prosecutions and EUs, this is extremely rare. In the current study, we therefore did not seek to engage with workers, unions or other worker associations.

Officers at the NSW WHS regulator SafeWork NSW

Fifteen, purposefully selected officers from the NSW WHS regulator SafeWork NSW were interviewed in-depth for a maximum of 60 min. Eight interviews were undertaken face-to-face and seven via telephone. The interviewer followed a semi-structured interview guide (Appendix A) to allow discussions to be flexible and qualitative in nature, ensuring that participants could convey the issues that were most important to them pertaining to their individual expertise.

We specifically explored:

- Awareness of how each enforcement tool is used in NSW and how this has changed over time.
- Perceptions of how effective each tool is and what factors affect their effectiveness.
- Perceptions of the overall enforcement approach, in NSW and nationally.
- Suggested strategies for more effective use of enforcement tools.

To maximise information collection, we used convenience sampling of 15 key informants from a variety of functions within the regulator and varying level of seniority (Table 1). The interviews were recorded, transcribed and analysed for common themes and points of difference.

Table 1: Level of seniority and function affiliation within the regulator among interviewed public servants in NSW.

Factor	Category	Number of interviewees
Level of seniority	Director	3
	Manager	6
	Principal inspector	4
	State inspector	2
Function within regulator	Legal	2
	Investigations and Emergency Response	7
	Engineering	1
	Operations in the construction industry	4
	Metropolitan operations	1

NSW businesses

Eleven, in-depth telephone interviews with individuals responsible for WHS across a range of small, medium and large NSW businesses, operating in construction/infrastructure, manufacturing and engineering fields, were undertaken (Table 2). The businesses were purposefully selected as key informants due to their individual experience with different levels of enforcement. Based on SafeWork NSW data, nine businesses had previously been subject to at least one penalty notice, EU or prosecution for WHS breaches. The remaining two businesses could not be identified in the database and was therefore approached for participation to represent businesses with no WHS enforcement experience (Table 2). The interviews were conducted for a maximum of 30 min and the interviewer followed a semi-structured interview guide (Appendix B) to allow flexibility for the participants to convey the issues that were most important to them. The interviews were recorded, transcribed and analysed for common themes and points of difference.

We specifically explored:

- Awareness, perceptions and experience of the regulator and its activities.
- Awareness of WHS laws and the consequences of non-compliance.
- Perceptions of the appropriateness of penalties.
- Sharing of information around enforcement interactions (general deterrence).
- Behaviour change as a result of enforcement (direct deterrence).
- Suggested strategies to encourage a more impactful safety message and better WHS practices among NSW businesses.

Table 2: Characteristics of interviewed individuals responsible for WHS in NSW businesses including the role of the respondent, business size, field, range of operations and highest level of enforcement experienced.

Factor	Category	Number of interviewees
Role of respondent	Business Owner/Director/Manager	7
	WHS Manager/Officer	4
Business Size	Small	4
	Medium	2
	Large	5
Field	Construction/Infrastructure	5
	Manufacturing	4
	Engineering	2
NSW operations	State-wide	5
	Regional only	4
	Sydney only	2
Highest level enforcement	Prosecution	3
	Enforceable Undertaking	3
	Penalty	3
	None	2

New South Wales data - use of enforcement tools and likelihood of reoffending

Quantitative analysis of the use of enforcement tools by WHS regulators was explored using the database of the NSW WHS regulator, SafeWork NSW. Data was obtained in March 2018 and contained notice-related records (penalty, prohibition and improvement notices) from 1 January 2007 to 31 December 2017. The notice-related dataset was cleaned with regard to date, type, Australian Business Number (ABN), notice type and associated notice text and details. Data relating to prosecutions and EUs were extracted from a separate database and cleaned in relation to ABN. The prosecutions data was extracted from March 2014 to 31 December 2017 as March 2014 was the time the first prosecutions under the *WHS Act 2011* (NSW) were carried out in the new District Court jurisdiction. Similarly, data on EUs was only available from January 2013 as EUs were a new addition to the regulator's toolbox under the new *WHS Act 2011* (NSW). Matters that were labelled as cancelled, withdrawn or rejected were excluded from trend analyses. Similarly, only valid ABN records were considered to compile each ABN's compliance history for analysis of reoffending.

Descriptive statistics

To investigate the use of each enforcement tool, the changes in numbers imposed over time and how these related to characteristics of the offenders, descriptive statistic techniques included analysis of variance to compare significant differences among groups and bivariate regression for total and subsets of the data to determine trends over time.

Survival analysis: likelihood of reoffending

The effectiveness of each tool on preventing reoffending was estimated using survival analysis. The survival analysis estimates the likelihood of compliance (or "survival") over time for businesses after experiencing each enforcement tool by analysing the rate of reoffending (or rate of "dying"). The definition for reoffending was that of a business (an ABN) having received a type of enforcement (a penalty, prohibition or improvement notice, prosecution or EU) subsequently receiving another enforcement (a penalty, prohibition or improvement notice, prosecution or EU). The analysis then accounts for the time taken until reoffending occurred or the time until the census date was reached (i.e. the business did not reoffend by the 31 December 2017) and calculates a probability of survival for each tool over time.

As businesses were tracked using their ABN, the analysis did not account for instances where businesses went into liquidation and possibly re-established themselves under a different ABN, director and/or business name (also known as "phoenixing"). There was also limited possibility to track the WHS issue an enforcement was imposed for and we were unable to distinguish escalation of an offence from new reoffending. The analysis also did not differentiate situations where multiple enforcements were issued to the same ABN in a short amount of time (likely related to the same issue) from situations where those enforcements were issued on their own. Moreover, there is likely a wide range of factors influencing reoffending that were not considered in this initial analysis. For example, compliance history, as called out in the NCEP, is likely to be influential. In the overall analysis, the repeated offending by serial offenders was treated as independent occurrences of reoffending and no differentiation based on compliance history was considered.

To address this particular issue, we classified ABNs into low, medium and high-level offenders based on their rate of offending prior to the occurrence of reoffending under analysis, that is, the number of enforcements per year. The "Low" group had no prior offending, "Medium" had 1-9 enforcements issued per year prior and the "High" group had 10 or more enforcements per year prior.

The analysis was completed using the *survival* [18, 19] and *survminer* [20] packages in the programming language R [21]. As the survival analysis produces Kaplan-Meier curves (i.e. step-wise decreases as opposed to a smooth decline), differences in survival rates among enforcement tools were identified by multivariate, non-parametric log-rank tests.

Regulatory frameworks guiding decision making

Work Health and Safety regulators have the discretion to use a variety of tools to influence duty holders to comply with the WHS rules and regulations [2]. The decision of which tool to use is primarily guided by the principles of responsive and risk-based regulation. Responsive regulation posits that the most effective outcome is achieved when a mix of tools are used, designed to act upon intrinsic, closely held motivations of the duty holder [22] and taking into account their individual learning style, strengths and capability [23]. When people are driven by intrinsic motivation, the enforcement is not only cheaper, but might also lead people to behave in ways which could not be achieved by mere deterrence [3]. Education and support are therefore effective tools to help build desire, knowledge and capability to comply [24]. However, when the regulated activity carries great potential for immediate or imminent harm to others, it may be more justifiable, safer and resource-efficient to not rely on support alone but use stronger tools and sanctions that also focus on deterrence [3]. Australian WHS regulation is therefore also guided by a predominantly risk-based approach where decisions are not only made on an individual and situational level, but risk-based thinking also applies to how resources are broadly allocated within the regulator [25].

Deterrence

The use of sanctions in a responsive and risk-based approach is based on deterrence theory and its principles of certainty, proportionality and swiftness. The approach targets those who do not make decisions randomly, but rather via rational deliberation based on the information available to them at the time [26]. This includes weighing up the perceived benefits of non-compliant behaviour against the risks. The ultimate decision then depends on their perception of the severity of the consequences and the likelihood of getting caught. According to this approach, if offenders are caught with sufficient frequency and penalised with sufficient severity, then the perceived cost of non-compliance will outweigh the benefits and directly deter the duty holder from reoffending [5, 6, 9]. Similarly, the community will be deterred from offending if there is a general belief that non-compliance will be detected and sufficiently punished [5, 6].

The success of the deterrence approach therefore relies on the way the sanctions and risks are perceived [27]. Key influencing factors include certainty of punishment and that the sanction is proportional to the offence. If the severity is considered too high, it may create antagonism and make the regulator seem as unfair and heavy-handed rather than the sanction being a consequence brought on by the offender's own actions [6]. In the criminal justice system, studies have shown that disproportionally severe sanctions may increase rather than decrease reoffending [23]. Conversely, if the sanction is too small, it will not provide the desired deterrence value and the offender might instead see the sanction as simply one of the costs of life [6]. Moreover, it is important that the sanction is applied swiftly as the link between the offence and the consequence diminishes the longer it takes for the sanction to be implemented [6].

The decision of what size sanction to impose gets complex when regulators try to assess the value of the perceived benefits from an offence. For instance, what is considered "too high" or "too little" by the wider community is influenced by factors such as the circumstances under which the offence was committed as well as the offender's motivations and ability to absorb the cost of the sanction [28]. No two situations or two people are alike, therefore the value gained from a specific offence and the effectiveness of applying a sanction of a certain severity for that offence varies.

For example, evidence suggests that the moral compass of most people tends to align with the law and that of the wider community. The non-compliant behaviour may simply be due to a lack of knowledge of their obligations and potential consequences of their behaviour on health and safety, rather than a deliberate criminal act [29]. This is particularly true for minor, non-intuitive offences, such as having to retain documents for a certain time. The perceived benefit from non-compliance in this case would be close to zero and it is often sufficient to simply inform offenders about how to fulfil their obligations for long-term compliance to be achieved [11]. Applying a sanction in this case would not increase the likelihood of behaviour change and could instead create antagonism and significant harm to the relationship with the regulator. An alternative approach that places significant value on these aspects is the persuasion approach [11].

Persuasion

The persuasion approach, favoured by responsive regulation, builds on the fact that all duty holders are under normative pressure from their community to be fundamentally socially responsible and majority therefore have an inherent desire to be lawful. The approach builds on primary social principles, including; persuading the duty holder to see the value of compliant behaviour so they become willing to comply; educating the duty holder so they know what is expected of them; praising and encouraging the duty holder so they feel they have the ability and efficacy to comply; and socialising individuals through material and social rewards to abide with the laws and expectations of their community [7, 10, 28].

The persuasion approach therefore focuses on respectful collaboration and structures that foster sustainable solutions and a culture of shared commitment to regulatory goals rather than enforcing compliance with potentially ill-defined, legislative standards [5, 7, 23]. In many situations, the regulator can greatly benefit from these relationships. Particularly where solutions are not clear and innovation and collaboration with the offender might be the only way forward [10].

While evidence suggests that majority of individuals will be responsive to this approach, a smaller proportion are inevitably more calculating [11]. In these cases, education and advice will not be sufficient. The threat of and actual application of sanctions will likely be more effective in attracting attention to the habitual behaviours the offender has not yet understood as relevant social responsibilities [29]. It is also important not to underplay the relevance of power dynamics among workers, employers and regulators, and acknowledge that the goal of compliance may not always be common to all involved [13, 30].

The responsive-regulation pyramid

Responsive regulation and its pyramid model (Figure 1, left) recognises that a balance of both persuasion and deterrence approaches are needed by the regulator [22]. This allows the regulator to tailor its response to be the most effective in promoting behaviour change for each individual offender [7, 22]. The challenge, however, arises when attempting to identify which motivations drive the behaviour of the duty holder and to predict which tool will have the largest impact. The fact that motivations and attitudes are not static, but rather amenable to change such that the same duty holder may have multiple, potentially conflicting, motivations for compliance at different times further complicates the success of predicting whether to punish or to persuade [10, 11, 31].

Risk-based regulation

In addition to responsive regulation, Australian WHS regulators are also guided by a risk-based approach to allocation of resources. Risk-based regulation has been adopted by most regulators in Australia, the UK, and increasingly across other OECD countries [32]. The approach involves identifying the degree of risk that the duty holders' activities pose to the regulator's objectives as well as the duty holder's ability to control those risks [33]. For WHS regulators, this primarily includes the risks that may cause work-related injury, disease or death, in terms of the likelihood of an adverse occurrence and the anticipated severity of its consequences, should it occur [34].

The risk-based approach relies on techniques for weighing risk, such as risk assessment tools and assessments of managerial competence and commitment, to secure maximum impact to those activities creating the greatest risk [25]. Risk-based rankings using these techniques and other proxy measures, such as incident rates or local intelligence, have assisted regulators such as the Health and Safety Executive (HSE) in the UK to prioritise proactive inspections and target special programs. This allows the HSE to focus on taking a lighter-touch approach to health and safety at work, concentrating efforts on higher-risk industries and serious breaches of the rules. This also leaves those duty holders that pose a lesser risk, and that do the right thing by their workers, free of unwarranted regulatory scrutiny [35].

A matrix-framework based on the duty holder's motivation and capacity to improve WHS performance has also been used by regulators worldwide to rank duty holders based on risk. The Danish National Working Environment Authority (WEA), for example, uses compliance history and a workplace inspection to collect information about the effort the duty holder has put in and their attitude [25]. Checklists developed from official statistics for each industry sector are then

used to classify duty holders into three categories to better target resources to those less able or less willing to improve their working environment on their own [25]. A similar matrix based on the culpability of the enterprise and the estimated risk of harm (calculated based on likelihood and severity) is used by the Victorian Environment Protection Authority to guide compliance and enforcement based on where the enterprise is located in the matrix [36].

In general, risk-based regulation involves cycles of risk identification, measurement, mitigation, control and monitoring, where risks are typically identified and assessed, a ranking or score is assigned, and inspection and enforcement are undertaken on the basis of these scores. Like the responsive regulation challenges, the main limitations lies in the difficulty of identifying motivations and capability of the duty holder as part of the risk assessment. Relying on inspections as the basis for data collection and setting priorities for further interventions is resource-intensive and neglects duty holders that are, for various reasons, difficult to reach and inspect [25]. Moreover, relying on professional judgement of inspectors and senior officers to determine a duty holder's capability and attitude provides a flawed basis on which to predict risk. While it provides flexibility in the regulatory response, subjectivity and prejudice hinders the aims of consistency and accuracy. Evidence-based assessment tools have repeatedly been shown to outperform professional judgement [23].

Decision-making in Australian WHS

The decision making by Australian WHS regulators are guided by the NCEP [17] which incorporates risk-based targeting of resources towards areas and conduct of highest risk and a responsive approach tailoring the intervention design to the duty holder. The guidance provided comprises a list of criteria for regulators to consider as part of decision making. The list includes consideration of the level of risk and the seriousness of the conduct and consideration of duty-holder characteristics, such as culpability, compliance history and attitude, as well as the likelihood of reoffending and the likely impact of enforcement on encouragement and deterrence. The criteria also includes consideration of whether the duty holder was authorised, had made efforts to control the risk and other mitigating and aggravating factors, such as timeliness; whether the risk is imminent or immediate and whether the duty holder can comply on the spot without further action [17].

A decision-making model was developed to support the NCEP and provide regulators with a degree of consistency in assessing seriousness of the offence and determining the appropriate regulator response when a WHS-related event is reported [37]. The decision-making model therefore includes a consideration of the sufficiency of information, the jurisdictional responsibility and if there is a duty under the WHS Act. The model then recommends consideration of external pressures and national priorities, including:

- Public expectation,
- If the matters require statutory response,
- If it relates to non-compliance with a notice or direction,
- Impersonation of an inspector,
- Confirmed workplace harassment,
- Failure to notify, or
- Discrimination of employees because of WHS activities.

The model includes definitions of what matters constitute a "serious" and "very serious" event and assists the decision of whether an inspector-visit is required as opposed to an administrational action (e.g. a letter is sent). The model suggests a visit is required if there are uncontrolled risks in the workplace, if the duty holder has poor character (e.g. poor compliance history and/or attitude) or the matters align with the regulator's risk-based priorities [37]. The NCEP then provides guidance around the appropriate use of each enforcement tool [17]. As anticipated, the Australian WHS regulators have adapted elements of the model and the NCEP as necessary to meet their internal infrastructure and operating arrangements [38].

Pitfalls

To minimise the reliance on consideration and professional judgement, WHS-related data is commonly used to guide decision making around allocation of resources. As mentioned in the previous section, initial inspections may be carried out to collect data and establish baselines of performance. However, where systematic inspections are not feasible, regulators tend to use metrics such as the number and nature of the duty holder's workers compensation claims.

However, the reliance on workers compensation data involves a number of pitfalls. For example, relying on a limited range of indicators can result in a focus on known and familiar risks, often to the exclusion of new or developing risks. There is also the tendency to downplay low-level risks even where cumulatively these may have a major impact. It is therefore important for regulators to be clear about which risks will not be prioritised and how to deal with the political, practical and legal consequences of establishing levels of risk tolerance [14, 25].

Other pitfalls arising from the use of workers' compensation data include:

- Under-reporting: some injuries are not reported to the regulator or may "fall through the cracks"
- Long latency period: some industrial diseases with a long latency period are not discernible from the data
- Accuracy: workers compensation claims may be suppressed or contested
- Inconsistency: data may be inconsistent over time and processes and reporting procedures change
- No "employer": a substantial minority of workers may not be included as they do not have an "employer".

Because of these known issues, workers compensation data provides a flawed basis for resource allocation, particularly when it is the primary or exclusive basis for such decisions [14]. An additional concern is that the data may be considered old and irrelevant by the time it becomes available in a usable form. Moreover, due to the impracticality of inspecting all duty holders in a jurisdiction, it often fall to chance as to whether a high-risk duty holder is targeted for intervention [14].

To overcome the pitfalls, it is important to triangulate data from multiple sources and include data such as serious incidents data, incident rates, trends over time, hospital admissions data, coroners' reports, industry knowledge (including surveys and focus groups), and the compliance history at business, hazard and industry levels [25]. It is also important to consider sources that may contain lead indicators as precursors of harm that give warning before an event occurs. Some of these may include first aid training, number of safety audits conducted and percentage of employees with adequate training [25].

Data sources can therefore be both quantitative and qualitative in nature and both may be used to develop evidence-based risk assessment frameworks. While frameworks vary considerably in their structure and implementation, a systematic review concluded that most start with an assessment of the risk that needs to be managed, as opposed to the rules the regulators have to enforce [14]. The frameworks then tend to focus on determination of whether the risk relates to one of the regulator's objectives and level of risk tolerance. This is then followed by an assessment of the likelihood of the risk occurring and its likely consequence. Depending on the data available for calculating probability of the risk materialising in different situations, assessment frameworks may be more or less qualitative in nature. Quantitative assessments involve less individual judgement and can be done in a consistent manner by the regulator or a contracted third party [14]. Qualitative assessments conversely allow more flexibility but critically rely on the skill and expertise of trained officials who are making subjective judgements [14]. Evidence-based assessment tools have repeatedly been shown to outperform professional judgement, suggesting that subjectivity and prejudice hinders the aims of consistency and accuracy [23].

To be most effective, it has been suggested that the principles of risk-based regulation and targeting of resources should be combined with the principles of responsive intervention design such that regulators utilise data on the total spectrum of factors and forces that impact on regulatory regimes [2, 14]. This approach, sometimes referred to as "really responsive risk-based regulation", suggest that regulators should consider 1) the characteristics and logistics of intervention tools, how the tools interact and how they relate to the overarching strategy. 2) Regulators should consider the attitude, motivation and culture of the duty holder and likely impact of the interventions as these characteristics determine the responsiveness of the duty-holder to enforcement and behaviour change. Other challenges the regulator should consider while developing a really responsive risk-based decision-making framework is 3) its organisational setting. This includes its resourcing, responsibilities and powers, as well as its ability to monitor and adapt its interventions and frameworks to changes in priorities, challenges and objectives [14].

How enforcement tools influence behaviour change

The use of enforcement tools builds on the theories of encouragement and deterrence to motivate behaviour change and reduce offending [6]. Their effectiveness therefore relies on how the duty holders perceive their regulatory obligations, the enforcement tools and, ultimately, their compliance [27]. Perceptions vary due to influencing factors such as motivations, characteristics, decision-implementation resources as well as pressures from external agents, environments and events [27]. Regulators have therefore been recommended to consider the interplay that may occur among these factors to determine perceptions, attitudes and level of responsiveness to enforcement tools when designing enforcement interventions [17, 27]. This is important as sanctions will not have much impact if duty holders are not aware of them or if they perceive the chances of being caught as minimal [6]. Similarly, unwelcomed educational visits might not be effective if they are perceived as heavy-handed and unnecessary inspections [39].

Motivation

Motivation plays a significant role in shaping the conduct of WHS duty holders [27]. Scholars in the field have identified the motivations most likely to drive action and behaviour change in regulated businesses, characterising these as legal, economic, social and normative [31, 40]. As motivations and attitudes are not static, a duty holder may respond to a subset or mixture of these [41, 42], or may have multiple, potentially conflicting, motivations at different times [10, 11, 31].

- Legal: level of agreement with the legitimacy, the perceived authority of the law, respect for the regulator.
- Economic: perceived likelihood of detection and severity of sanction, disruption of the workplace and impacts on commercial goals to maximise profit.
- Social: the desire to earn the approval and respect of significant others, consequences for reputation.
- Normative: the sense of moral duty and desire to conform to internalised norms or beliefs about right and wrong.

In the WHS field, studies have aimed to establish the contextualised and plural nature of duty-holder motivations to better ascertain what causes one particular factor to take precedence over another and to develop positive rationales for taking preventive action or negative justifications for not doing so [24]. A study of businesses in the UK identified that owners were primarily motivated to address WHS if poor safety standards had the potential to threaten business survival, if there were serious and well-recognised risks and if these were large and highly visible to the inspectorate or local community [24]. The study found that if these conditions were not met, businesses commonly subordinated safety to profitability goals and favoured their economic motivation. In similar Australian studies, profitability was also found to be the driving force behind construction businesses' responses to fatalities; while large and influential businesses were able to accommodate safety, smaller ones chose profit over safety [43]. These studies also exposed individual contextual factors that affect compliance, including organisational capacities and characteristics [43].

In another study of Australian businesses from a cross-section of industries, motivations included a normative sense of moral and ethical duty to provide a safe workplace; economic concerns relating to insurance; reputational concerns; and the threat of prosecution and penalty [44]. For businesses such as machinery manufacturers, motivations derived from a mix of legal and technical standards including the economic goal of ensuring the marketability of machinery and profitability. These tended to outweigh a sense of moral duty to protect health and safety [44].

Risk-Need-Responsivity model

In the field of WHS in Australia, the NCEP recommends consideration of a duty holder's culpability, compliance history and attitude. It also recommends consideration of likelihood of reoffending and the impact of the enforcement on encouragement and deterrence. However, little guidance is provided regarding how these considerations are to be made. Jurisdictions have therefore developed their own decision-making frameworks and detailed implementation [38]. Depending on availability to quality data, these may be more qualitative or quantitative in nature and therefore vary in level of reliance on the professional judgement of inspectors or senior officials considering assessment criteria [23].

In other fields, such as in criminal justice, similar considerations and assessments are required to link the level of enforcement intervention to the offender's risk of reoffending (risk-based targeting), needs and responsiveness. Historically, these assessments were entirely based on the judgement of trained and experienced professionals [23]. Risk assessment tools were then developed and demonstrated to predict risk of reoffending with higher accuracy than relying on the judgement of trained professionals alone [23, 45]. The risk assessment tools allocate scores to offenders based on the presence or absence of risk factors and when summed generates an overall indication of risk of reoffending. The tools have since been refined in response to the fact that offenders and their circumstances may change over time. Considering only static, historical, risk-factors such as compliance history, is therefore insufficient. The next-generation assessment tools were designed to be more sensitive to the offender's circumstances and focus on both static (unchanged) and dynamic (changeable) risk-factors. For example, employment and performance at work, or the characteristics of the offender's friends and family may change over time, whereas compliance history remains [45]. These next-generation tools also help correctional staff to identify what needs should be targeted as part of the intervention [23]. An example of an assessment tool widely used in criminal justice in Australia and internationally include the Level of Service Inventory – Revised (LSI-R) [23, 46]. The LSI-R builds on the principles of the Risk-Need-Responsivity model (RNR [23, 45]) and is one of the most theoretically guided assessments with empirically established predictive validity [45, 46].

The Risk principle: refers to who should be targeted. It suggests that reoffending and harm to society can be reduced if the level of intervention is proportional to the risk of reoffending in the individual. There is therefore a need to reliably differentiate high- and low-level reoffenders.

The Need principle: refers to what needs should be targeted. It suggests that static and dynamic risk-factors which are correlated to criminal behaviours or responsivity to enforcement should be addressed as part of the intervention strategy. There is therefore a need to reliably identify and assess risk-factors.

The Responsivity principle: refers to how targeting should be made. It suggests that the intervention needs to be delivered in the way that the offender is most responsive to. This includes consideration of general and specific responsiveness factors. General responsivity relates the offender's general openness to learning and changing behaviour whereas specific responsiveness factors relate to individual learning styles, abilities, personalities and demographics [23, 47].

Programs that adhere to the RNR model have shown up to 35 % reduction in reoffending rates in the criminal justice field and has been recommended as equally relevant and likely to be effective in other regulatory fields with the goal of behaviour change [47].

Responsivity

To become compliant, a duty holder needs the desire, knowledge, and capability to prioritise health and safety [24]. Drawing on empirical work on compliance within organisations [48], research suggests that duty holders need to progress through at least three stages before they comply with their obligations:

1. Management commitment: Management needs to be committed to comply, and to become actively engaged in setting compliance goals and in reviewing performance.

2. Learn: Businesses have to learn how to comply, involving acquiring the knowledge and skills for self-regulation and developing appropriate management policies, procedures and institutions. [49]

3. Institutionalise: Compliance, or self-regulation, needs to be institutionalised in everyday operating procedures, performance appraisals and in the culture of the organisation.

These findings are consistent with the transtheoretical model and its Stages of Change developed by health research into self-initiated behaviour change [50]. The model suggests that people move through three stages when changing behaviours: precontemplation, contemplation, and preparation, and two stages after the change in behaviour: action and maintenance [50].

The precontemplation stage includes those who have not recognised the behaviour as a problem they need to address. They can be pressured into compliance by regulators, but as soon as pressure is released, they will return to old habits [50]. Focus should therefore be on convincing them that the behaviour is a problem.

The contemplation stage includes those who are aware of the problem behaviour and are seriously thinking about how to overcome the problem but have not yet made the commitment to take action [50]. Focus should be on motivating a commitment to change.

The preparation stage includes those who have made a commitment to change and intend to act in the near future. They may also have attempted to change but failed [50]. Focus should be on informing how to change and motivate action.

The action stage includes those who have invested time and effort to modify their behaviour and are doing something to address their problem [50]. Focus should be on motivating continued action and maintenance of compliant behaviours.

The maintenance stage includes those who have made changes and are working hard not to relapse to old habits [50]. Focus should be on motivating maintenance of compliant behaviours.

To implement effective interventions, regulators could consider which stage the duty holder is in and design interventions that target motivations to progress to the next stages of change. The relatively small proportion of duty holders in the preparation and action stage has also been suggested as the reason for why large proportions of duty holders may say they would take advantage of educational products but only small percentages actually do [50]. Moreover, cognitive social learning principles suggest that effective learning also requires a relationship that is respectful and collaborative, delivered in a structured way that is adapted to the specific responsiveness of the duty holder. These include the duty holder's motivations, learning style, abilities and strengths [50].

Specific factors and needs

To maximise the likelihood of influencing non-compliant behaviours, specific duty-holder characteristics that correlate to the risk of reoffending should be considered as needs to target as part of the intervention design [23, 45]. Our review identified links between risk of reoffending and responsiveness to enforcement with business size, compliance history, organisational structure and industry affiliation.

Business size

The number of employees is a key characteristic that has been linked to willingness and capacity to address WHS matters [27]. The difficulties that smaller businesses and their workforces experience when dealing with WHS matters are multifaceted, ranging from limited resources and management expertise to competitive pressures, lower positions in contracting (or franchising) hierarchies, shorter life cycles and inadequate worker representation [51-53]. Moreover, effective strategies for building WHS capacity are resource-intensive as they require face-to-face discussions and practical problem solving, often facilitated by WHS advisors, regulators or consultants [54, 55]. The main feedback from small businesses on the use of sanctions is often related to the lack of support, education and advice from the regulator rather than the sanctions themselves [29]. Moreover, compliance is an ongoing activity and if the duty holder has not learnt how to not only change but maintain compliance, the business will soon be non-compliant again [50, 56]. The preventative effect from sanctions on reoffending is therefore often short-lived. This has been demonstrated by road safety research, where reoffending often occurs within months (see review of road safety evidence in *Factors affecting the effectiveness of penalty notices* below*)*.

Large organisations are more likely to systematically monitor WHS and use information conveyed by enforcements to revise their safety systems or make specific changes. This may be related to the generally stronger motivation of larger businesses to avoid the risk of reputational damage and ability to compete [29, 30], which is interpreted with different significance than in a smaller business [57]. Smaller businesses tend to instead find out about enforcement action via the media or personal contacts (or sometimes their industry body), and respond more strongly to the emotional or financial effects of accidents and enforcements [44]. However, all businesses tend to

be most receptive to news of enforcement action if it occurred in circumstances similar to their own [41].

For larger businesses, relatively smaller penalties are more likely to go unnoticed and are sometimes considered a cost of doing business [6, 51]. Qualitative research has shown that some large businesses in Australia use sanctions as a performance indicator, further demonstrating the lack of impact smaller monetary penalties can have on large business [29]. In these cases, the intervention needs to be adjusted such that it attracts the attention of management. This could include adjusting the penalty amount, the way the sanction is delivered, or combining the sanction with other tools to increase impact and the sense of urgency to act. In an example used by Macrory [51], a very large fine (£15 million) for health and safety breaches given to a multinational company in the UK only represented 5% of their after-tax profits and <1% of their annual revenue. While the fine is proportionally small, the sum was not negligible to the company and was delivered in a way that was sufficient for management to pay attention and initiate change. Basing penalty amounts solely on revenue or profit may not be appropriate. Moreover, a series of studies from the USA similarly demonstrate that relatively small penalty amounts have been sufficient to cause positive changes to employer behaviours [51].

Compliance history

In the criminal justice system, compliance history is one of the central predictors of reoffending [47]. This is often estimated as number of previous offences or enforcement experience [45]. As the level of previous experience with enforcement influences the perception of regulatory intervention, first-offenders tend to be more impressionable and likely to change their behaviour than reoffenders and serial reoffenders [58]. Similarly, one of the reasons smaller businesses (as discussed in the previous section) are more responsive to enforcement may be due to the large number of businesses in the sector and the relative infrequency of incidents and proactive inspections, leading them often to more often be first offenders [44].

The perceptions the duty holders have of themselves as being either complying and non-complying may also affect the way news of enforcement to others is interpreted (i.e. general deterrence from enforcement to others). Complying businesses tend to see enforcement as supporting the value of compliance and seek to learn from them to improve their own practice. By comparison, non-complying businesses may only be influenced by news of enforcement to others if they see a direct parallel with their own practice [57].

Organisational structure

The way the enterprise is organised may also impact the motivations in different groups of businesses. For example, the moral implications in a small to medium-size business may depend on whether the manager knows the person who was injured, whereas in larger businesses moral implications are more commonly expressed in terms of societal values [40]. The distance between the decision-maker and the local issue or injured worker may also influence how enforcement is perceived. Similarly, related factors such as commitment by upper management to WHS, leadership and training of staff are key correlates to good WHS performance and therefore used in many WHS performance assessment tools [59].

Industry

One of the major risk factors in reoffending in criminal justice is the companions and relationships that support the offender [47], likely due to the large social and normative pressures they impose [31, 40]. The industry and the culture within which the duty holder operates is therefore a strong indicator of reoffending. For example, the level of risk in the industry and their experience with enforcement may shape attitudes and responsivity. For example, Vickers [60], who classified small businesses based on attitude and responses to regulation found that small businesses in the retail industry were less likely to be able to identify relevant health and safety legislation than those in other industries. In contrast, research suggest efforts have been variable in succeeding in targeting motivations to comply in high-risk industries that experience more scrutiny from the regulator, such as the construction industry. Some older qualitative research identified that complaints from the construction industry primarily related to perceived unfairness [29]; unfairly being targeted compared to other industries; unfairly being issued with sanctions for offences believed to be another contractor's responsibility; and unfairly receiving sanctions for issues seen as less related to overall WHS performance. In these situations, sanctions are unlikely to be effective as they are regarded as the regulator being unfair and heavy handed, rather than being a

legitimate consequence of the business' own actions [61]. Interventions therefore need redesign with consideration to the culture and values of the offender's immediate community to better target motivations and change attitudes [47].

Understanding prosecutions

Criminal prosecution, potentially leading to a court penalty for a breach of the WHS laws, is a discretionary action in Australia. It is therefore only one of several enforcement tools and not every breach of law proceeds to prosecution. This is consistent with the discretionary nature of criminal prosecution generally, where the Department of Public Prosecutions (DPP) decides, in accordance with guidelines, whether and what charges should be laid in relation to an offence.

A recommendation of prosecution from the regulator is one of the most severe sanctions duty holders can incur and is therefore reserved for the most serious offences and the most recalcitrant and dangerous offenders [62]. In the responsive regulation pyramid, prosecution represents the peak action suggesting that it should only be used as a last-resort after more persuasive and responsive options have been exhausted. However, following the guidance of risk-based resource allocation, prosecution may be justified as an immediate escalation if the seriousness of the offence and the risk necessitates an immediate, severe action [3].

The aim of a prosecution is to establish guilt, punish wrong doings, act as a strong direct deterrent to the individual offender, instil the seriousness of their actions and deter them from reoffending [63]. A finding of guilt and subsequent sentencing also act as a signal to the wider community that serious breaches will be caught and sanctioned [62]. Moreover, a regulator following through on prosecutions and securing convictions at the top of the pyramid also reinforces credibility with duty holders that the regulator has this capacity and will escalate matters if necessary. In many cases, this credibility is sufficient to motivate problem solving and prompt cooperation at lower levels of the pyramid [10, 64, 65].

Prosecution therefore has an important role as the peak action in the WHS responsive regulatory approach, which differentiates it slightly from other criminal prosecutions. Generally, criminal prosecutions only seek to reduce criminal conduct in the offender and others, whereas WHS prosecutions have a broader remit of also promoting positive work practices. The decision to take WHS matters to court therefore must take account of a broader range of possible motivating factors and approaches to strike the right balance and deliver efficient and effective regulation.

The use of prosecution across jurisdictions

While the NCEP specifically recommend data and information sharing among Australian WHS regulators, there is little information surrounding the use of prosecution. Moreover, there are significant differences in the approaches leading up to prosecution, meaning inspection, investigation and prosecutorial decision-making, the kinds of issues prosecuted, and the way in which the prosecutions are prepared [38, 66]. This is in addition to other significant differences between jurisdictions, including the type of court in which the prosecution is conducted, and the involvement of the DPP or Crown Law in some jurisdictions [38]. While the prosecution guidelines therefore vary among jurisdictions, they all align with the NCEP and contains the three main criteria common to all jurisdictions in the DPP's Prosecution Policy [67]:

1. *The existence of a prima facie case, that is, the evidence is sufficient to justify the institution of proceedings;*

2. *Reasonable prospects of conviction, that is, the strength of the case when presented in court, taking into account the availability, competence and credibility of witnesses and their likely impression on the court, the admissibility of any confession or other evidence, and any lines of defence available to the defendant; and*

3. *Public interest, which may include the following considerations:*

    (a) Seriousness or, conversely, the triviality of the alleged offence or whether it is only of a technical nature;

    (b) Mitigating or aggravating circumstances;

    (c) Characteristics of the duty holder—any special infirmities, prior compliance history and background;

(d) Age of the alleged offence;

(e) Degree of culpability of the alleged offender;

(f) Whether the prosecution would be perceived as counter-productive, that is, by bringing the law into disrepute;

(g) Efficacy of any alternatives to prosecution;

(h) Prevalence of the alleged offence and the need for deterrence, both specific and general; and

(i) *Whether the alleged offence is of considerable public concern.*

An example of an amendment include the update to the SafeWork NSW prosecution guidelines in January 2018, which introduced specific reference to the purpose of prosecution outcomes being to change the behaviour of the alleged offender and deter future offenders [68].

Evidence of effectiveness

The effectiveness of prosecution lies in its ability to deter specific offenders from reoffending, its ability to deter the general community from offending, and in its ability to function as a threat at the top of the pyramid to induce compliance by lower-level tools.

Few studies have found that increasing WHS enforcement activities have a direct deterrent effect. In one study investigating the impact of the Occupational Health and Safety Authority (OHSA) enforcement activities in the USA, Scholz and Gray found that a 10% increase in enforcement activity reduced injury rates by 1% over several years. However, the authors also found that the certainty of being sanctioned was more important than the size of the penalty, although this finding could not be extended to extremely high "mega penalties" of hundreds of thousands or millions of dollars [44].

While the perceived reputational damage from being caught violating environmental regulations and difficult-to-comprehend financial rules may involve a different calculus from a duty holder contemplating the impact to their business of a serious workplace accident and prosecution [62], a study investigating businesses' responses to signal cases in environmental regulation found that knowledge of high profile prosecutions had differing effects on subgroups of non-prosecuted businesses [57]. For complying businesses, the prosecutions provided a reminder of the value of compliance with regulation, whereas for non-complying businesses, prosecutions may only have a deterrent effect if the case is similar in circumstances to that of the individual business. The study suggested that the impact of prosecutions is partly due to reminders of the reputational damage associated with non-compliance. The study also found that the importance of general deterrence messages may be greater at earlier stages in regulatory programs [57].

Factors impacting the effectiveness of prosecutions

Venue shift in New South Wales

Prosecutions in NSW under the *Occupational Health and Safety Act 2000* (NSW) were conducted in the Industrial Court. With the introduction of the *WHS Act 2011* (NSW) there was a shift in venue to the District Court. As a result, the predecessor of SafeWork NSW, the WorkCover Authority of NSW, adjourned about 160 prosecutions launched under the *Occupational Health and Safety Act 2000* pending a challenge to the District Court's jurisdiction in the Empire Waste litigation in the Supreme Court. In 2013, the NSW government passed the WHS Amendment Bill to clarify the District Court's jurisdiction and the first prosecutions initiated by the WorkCover Authority of NSW under the *WHS Act 2011* (NSW) took place in March 2014 [67].

Some scholars argue that despite its technical classification as criminal law, WHS prosecutions are generally treated as regulatory infractions than on par with other crimes [69]. They argue that this decriminalisation of WHS is a result of the way in which WHS offences have been differentiated from "real" crimes of violence in the mainstream criminal law; the reluctance of WHS regulators to prosecute WHS offences; and the relatively low penalties imposed by courts once health and safety issues are individualised and decontextualized during the prosecution [69]. Since deterrence is a result of community perception, the potentially perceived trivialisation of WHS

offences once it reaches the courts and sentencing phase could have far-reaching effects on deterrence beyond the regulator's control [69].

Other older studies have found that courts have been less equipped to deal with the systemic changes needed from regulatory enforcement, instead focussing on the specific sequence of events in each case, and routinely under-penalising compared to sentencing guidelines. Johnstone [70] documented the way in which prosecutions for WHS offences were constructed in Victorian Magistrates' courts, finding that the average fine imposed was 21.6% of the maximum allowed for the offence. He also found that the Magistrates imposed good behaviour bonds for 17% of those cases resulting in convictions. One key way in which Johnstone finds that the legal system does not deal effectively with WHS offences is the emphasis on the specific sequences of events leading to the death or injury rather than dealing with the WHS system failure in the business. The way in which WHS offences are treated in the court system and the focus on individual and specific events rather than the broader context such as the organisation of work and the quality of WHS management, may be reducing the broader impact of prosecutions.

Similar, more recent, analysis of NSW decisions [66] shows that most judges appear to take a "softer" approach to discount for an early plea: the standard "discount" is 25%, and senior officers at SafeWork NSW recounted one case in which the defendant received a 20% discount for a plea entered two weeks before the trial [66]. The study also argued that the District Court seemed influenced by "blame shifting" arguments; that the worker had been remarkably careless or that one of the other parties had interfered with the defendant's systems of work. Here the court is leaning towards following a traditional civil negligence approach to prosecution instead of staying within the bounds of WHS.

The structural and procedural changes in NSW have also exacerbated the issue of inconsistent sentencing approaches. Most WHS Act prosecutions in NSW are heard in the District Court, where three District Court judges have been assigned to hear these cases. The NSW Industrial Court and Industrial Relations Commission, which heard prosecutions under the *Occupational Health and Safety Act 2000* (NSW), developed a large body of case law about sentencing WHS offenders. But the District Court has taken a different approach, stating that it is not bound by the Industrial Relations Court and Commission decisions [66]. A 2016 analysis of the available court decisions showed that the judges took different approaches; applying their routine approach to sentencing and the same broad statutory principles, but using a different "template" [66].

The shift of venue for WHS prosecutions has meant that there is no longer a substantial and consistent body of WHS sentencing principles, as there was when the Industrial Relations Commission of NSW heard most WHS prosecutions. The District Court is applying mainstream sentencing principles to complex issues emerging in WHS crime, with some judges seemingly overly concerned with issues of "foreseeability", and sometimes persuaded that the "blame" for an incident involving a breach of the *WHS Act 2011* (NSW) can be shifted from the PCBU to another party [66]. District Court Judges tend to be "softer" on pleas in mitigation that the defendant entered an early plea, and co-operated with the regulator. Because effective deterrence relies on clarity and consistency of penalty, the recent upheaval in the sector is sure to have had an impact on general deterrence.

Willingness to prosecute

Regulation is intended to shape compliance with the law and address offending behaviour through a mix of enforcement sanctions. However, there is ongoing debate between regulators about the effectiveness of a deterrence approach as compared to a compliance approach [4]. In the WHS arena, the regulators' reluctance to resort to prosecution has been the subject of criticism [4].

In the Industry Commission's 1995 report on WHS, the Commission stated that the persuasion approach to enforcement was "not working" and that constantly persuading individuals to rectify an unsafe situation, by giving advice or compliance notices, could be expected to "do little to deter others" [71]. A more recent report on the *Victorian Occupational Health and Safety (OHS) Act* in 2007 similarly concluded that prosecution rates for OHS breaches in Victoria were low, given the still high rates of workplace injuries and deaths [72].

However, the harmonisation initiative, the responsive regulation approach and subsequent political climate called for regulators nationally to ease up on prosecution. It was undesirable that the business community perceived inspectors as "industrial policemen" [4] and routine

punishments for serious WHS breaches was eschewed as wasteful of public resources and ineffective as a deterrent measure, unless the offence was so egregious that it resulted in a fatality or very serious injury and thereby provoking significant public concern.

For example, to achieve a balanced approach, SafeWork NSW organised delivery of their regulatory services through a division between general inspection (and the provision of assistance and advice) on the one hand, and specialist investigation and prosecution of only the most serious WHS offences on the other, exercising centralised control over the two. Analyses of similar structures in the UK found that these specialist units may have diminished the position of generalist inspectors [49]. In the UK, inspectors experienced a decreased sense of competence and control over their own work, as well as lowering morale. A technocratic approach [73] to investigation and prosecution, evident in the establishment of formal enforcement policy and standardised approaches to investigation and prosecution decision-making, may therefore diminish the position and institutional expertise of specialist inspectors.

Punishment or deterrence

Despite being an explicit purpose of the sentencing guidelines, studies have found that deterrence plays a relatively small role in judges' sentencing in WHS cases. For example, Hopkins [63] analysed the judges' reasons for sentencing for the businesses prosecuted over the Gretley mine disaster in NSW and argued that, in that case, the need for deterrence played a relatively small role in the judgement and that the larger issue concerned the culpability or blameworthiness of the defendants and the need to impose appropriate punishment. While the argument is based on a detailed analysis of one case, Hopkins suggested that this is likely to be true for prosecutions of WHS offences in general.

Component of responsive approach

Perhaps the biggest difficulty in assessing the effectiveness of prosecution in improving compliance is establishing causation between prosecutions and other enforcement tools in improved compliance metrics. The more responsive the regulatory regime, the more complex it becomes to assess whether the prosecution policy in particular was the factor inducing the change. The evidence in favour of general deterrence is not as strong as that supporting specific deterrence, partly because of the difficulties associated with causally linking a reduction in injury rates and fatalities to sanctions [49]. Workplace accidents and injuries are the result of a range of interacting causes, and changes in injury rates can reflect factors such as the impact of the economic cycle and employment levels within industries [49]. Furthermore, methodological weaknesses and the inaccuracy of existing workplace injury statistics make it difficult to isolate the effects of sanctions from these other influences [74].

"Phoenixing" and liquidation

There are many issues raised for WHS prosecutions of defendant companies going into liquidation after a prosecution has been launched against them. As one senior officer noted in Johnstone's 2016 study:

> *We've also had a number of instances … - and this is the case in many jurisdictions not just within the WHS regulator - where an organisation may re-phoenix itself. It's the same people doing the same work but they're called something different. That's quite a difficult issue to nail down and that's where that key person of interest identification needs to be done upfront and then follow it through to link into the officers.* [66]

The difficulty appears to be that the new duty on officers in section 27 is not seen by at least some WHS regulators to be suitable to prosecute officers where a corporate PCBU has ceased to exist. The deterrent effects of prosecution are sure to be greatly affected if businesses feel they can escape the sting of penalty by liquidating the business and continuing to operate in another form.

The role of the victim

Until recently, the Victim Impact Statement (VIS) could not be taken into account in sentencing in WHS prosecutions; rather, the use of VISs was a way of enabling the victim or the deceased's family to be heard by the court [66]. There is scope for a VIS to be put before the court in a NSW

WHS prosecution. However, the issue is fraught as a NSW senior officer commented in Gunningham's 2016 review:

> *As far as I know, it's never been used much in our jurisdiction. … The courts haven't known how to apply it … Also, judges have commented, well, I've got a VIS here. But … when there's a family that doesn't want to do a VIS, … how do I rank that? Like, just because they've offered - they've decided not to do it, I shouldn't prejudice - I shouldn't penalise this defendant overly, because someone here has. It just doesn't work.*

Some have qualms about VISs as the workers have common law rights, and the victim is not the client of the regulatory agency, making some regulators uncomfortable with how to interpret the VIS. Essentially WHS prosecutions are meant to demonstrate harm to the community, and sentencing is based on that harm or risk, not the harm to the victim. This disparity was pointed out in *WorkCover Authority of NSW (Inspector Moore) v E & T Bricklaying Pty Ltd* where Judge Kearns explicitly referred to a VIS that had been provided to the court, and stated that he had not taken it into account in determining the penalties in the two related prosecutions before the court. Judge Kearns (at [22]) explained that he had "taken into account the obvious seriousness of this offence", making the point that it is not the impact on the worker, but the objective seriousness of the offence that is relevant.

Understanding enforceable undertakings

Enforceable undertakings are an Australian invention from 1993 in the *Trade Practices Act 1974* (Commonwealth). Enforceable undertakings are designed to secure quick and effective remedies for contraventions of regulatory provisions without the need for court proceedings, and provide non-adversarial and constructive solutions to regulatory compliance issues. At their most basic level, EUs are promises enforceable in court. It is the duty holder, not the regulator, that makes the offer of an EU and the offer is then negotiated until an agreement is reached between the duty holder and the regulator, in which the duty holder undertakes to do or refrain from doing certain activities [75]. The agreement effectively substitutes, or augments, other regulatory enforcement methods and if contravened, the undertaking is enforceable in court, where the relevant WHS statutes provide for additional penalties for contraventions of the EU [75].

The EU was taken up as a standard tool in the broader WHS enforcement approach as part of the WHS harmonisation initiative in 2011. The model WHS Act includes provisions empowering regulators to accept a written EU from an alleged offender in connection with a contravention of the Act by the person. This does however not include Category 1 offences, that is, offences resulting from reckless conduct [67].

In principle, the offer of an EU can be made at any time and the duty holder does not have to wait until charges are laid for an offence. The regulator follows its published EU guidelines and gives the person offering an EU written notice of the regulator's decision and reasons to either accept or reject the undertaking. This written notice is also publicised on the regulator's website. Commonly, EUs are used as an alternative for prosecution and if a regulator accepts an EU before prosecution proceedings are finalised, the proceedings are discontinued as soon as possible. If the accepted undertaking is in effect and contravened, court proceeding will be initiated.

The role of the EU in the responsive regulation approach is primarily as an alternative to prosecution for duty holders that are more receptive to the compliance approach, and willing and capable of making significant changes to WHS. Common criteria for the acceptance of EUs is the commitment to deliver significant, tangible, long-term benefits to the health and safety of the workplace, the industry and the broader community [17, 56]. As a result, EUs do not always follow the traditional proportionality principle of deterrence theory and responsive regulation principles, where the punishment should be proportional to the severity of the offence and the motivation of the duty holder. Instead, EUs are sometimes disproportionate and can cost a business up to several times more than the penalty the original prosecution was likely to result in [75]. In return the PCBU retains a clean criminal record and gets the opportunity to develop ways to increase health and safety, in close collaboration with the regulator, not only in its workplace but also in its industry and wider community [75, 76].

The use of enforceable undertakings across jurisdictions

Enforceable Undertakings in Australia originated in financial regulation and consumer protection and has since been adopted by a number of other legal areas [75]. Enforceable undertakings in financial regulation, consumer protection and environmental protection among other areas have some key characteristics that differentiate them from their common usage in WHS law. For example, the Australian Securities and Investments Commission (ASIC) and the Australian Competition and Consumer Commission (ACCC) often use EUs *in addition to* rather than *instead of* prosecutions to access remedies unavailable through the court system, such as refunds.

The popularity of EUs in other areas of regulation has waxed and waned over the years [77]. For example, the ACCC's initial use of undertakings rose over the first four years, then wavered, then rose again to reach a peak in 2000 with 81 undertakings accepted. Later, acceptance fell to a low of 32 undertakings in 2003. In 2004, the ACCC showed renewed interest in EUs, and the rates of undertakings accepted reached an all-time peak of 103 in 2007, before falling again. ASIC's acceptance of EUs shows similar peaks and troughs, with a maximum of 67 in 2000, and as few as 6 in 2007. Consumer Affairs Victoria, which is unusual amongst regulators in that it initiates EUs, has also shown varying levels of usage (48 in 2007, 30 in 2008; [77]).

Since EUs in WHS is a high-level sanction, the offer of an undertaking will only be accepted if it fulfils the three main principles; benefits to the workplace, the industry and wider community [78]. Each jurisdiction's EU guidelines also often state that EUs are only accepted if appropriate given the circumstances and is likely to deliver more wide-ranging effects than can be achieved by a prosecution and court sanction. The intent of an EU is therefore to provide more systematic and enduring outcomes, tailored to the nature of the offence and with broader benefits for the industry and community. An EU can be seen as an incentive to improve health and safety rather than as a punishment [79].

Because these system-wide impacts are an inherent part of the rationale for EUs, it is not an unintended side-effect that EUs are sometimes disproportionate to the offence committed. The activities within an EU are not just to punish or restore justice, but instead to make lasting systemic changes to prevent incidents beyond the original offending business environment. Undertakings are not accepted for Category 1 offences and in some jurisdictions, in instances where the seriousness of the situation, e.g. a fatality has occurred, or the culpability of the duty holder and the motivations of the duty holder are not appropriate [67].

Evidence of effectiveness

There are very few systematic evaluations and evidence about the effectiveness of EUs [77] and just a handful of academic papers have looked at the effectiveness of the terms of the EUs by conducting stakeholder interviews [75, 80]. Most studies explore implementation and assessing whether the EUs fit with the goals and policies set for the EUs.

Johnstone and King [75] produced some of the most relevant research into EUs in WHS. Using documentary analysis and interviews with the Queensland WHS regulator (WHSQ) and EU applicants, private auditors and lawyers, Johnstone and King found that of the 65 applications submitted from 2003 to February 2007, 31 applications had been accepted, 21 rejected and 13 withdrawn. There has, however, been little study of the ultimate effectiveness of EUs, that is, a firm's compliance outcomes or the achievement of policy goals after the use of EU compared to other regulatory tools, or how the availability and use of EUs contributes to the overall compliance and policy outcomes of the regulatory regime.

In a report on a roundtable of regulators from a range of sectors, Johnstone and Parker [77] found that regulators emphasised that it did not make sense to evaluate EUs as if they were an independent enforcement action that could be said to be effective or not. Rather regulators saw them as one option sitting within a suite of alternatives for dealing with any particular case and should be considered and evaluated in the context of those options.

Despite fluctuating popularity in regulators such as ASIC and ACCC, EUs are broadly considered to be an effective regulatory enforcement tool. One study carried out by the International Monetary Fund investigated the use of EUs in regulation of the finance industry in Australia and found that EUs were effective in changing behaviour in a number of high profile cases in the finance industry [81].

The experience of using EUs in some of the jurisdictions where they have been available for a long time (especially the ACCC) suggests that undertakings show a great deal of promise as a more effective and efficient way to solve regulatory problems and to promote compliance than using court proceedings and financial penalties [77], potentially explaining why EUs have spread from the ACCC and ASIC to almost every other federal business regulator in Australia, many state regulators, and has been adopted in the UK [82].

Factors impacting the effectiveness of enforceable undertakings

Despite the scarcity of research on the subject, there are some common factors in the literature that has been demonstrated to influence the effectiveness of EUs under WHS law. These include the duty holder's perception of fairness, cost, content, accountability, timing and the consideration of third-party voices.

Perceptions of fairness

The duty holder's perception of the EU process is essential to the effective implementation of the enforcement tool. For offending businesses to initiate the EU process, they must see the process as just, fair and viable alternative to rolling the dice on a prosecution. A key study looking at stakeholder views of EUs in WHS [76] evaluated the tool against a framework comprising three justice types: 1) distributive, 2) procedural and 3) Interactional.

Distributive justice concerns the perceptions of fairness of the outcomes one receives when compared with a "referent other" and suggests the degree of proportionality. The authors argue that since the expectation of the regulator is for the offender to commit to activities that go "beyond mere compliance" and "achieve a standard higher than legislative compliance" and will only be accepted in some jurisdictions if they produce superior outcomes to a prosecution, EUs are sometimes seen as distributively unjust. In contrast, a prosecution is a one-off cost to the offender sentenced by the courts in direct proportion to the gravity of the offence [76].

In the study [76], offending businesses argued that EUs are sometimes disproportionate as compared with a penalty:

> *The cost to the firm was seen as proportionally unfair, both the real financial burden of delivering on the EU activities and the related hidden costs (human and physical resources, travel, time, effort and emotional demands on the duty holders). The latter is a factor not considered, nor obvious, to entities when initially deciding on offering an EU. As the costs are spread over three years, the distributively unjust nature is accentuated for the offending business because the obligations remain at the forefront of duty holders' responsibilities alongside their routine operations. However, the findings reveal that although perceived as distributively unfair, offending businesses identified numerous benefits, significantly a criminal free record that outweighed the financial burden and other associated EU costs.*

The study found that most stakeholders perceived the EUs as a procedurally fair process, in that it ensured the parties to a dispute had control over the evidence and information they present to the regulator, the process, and determining the outcome of the dispute and the decision. Enforceable undertakings are uniquely tailored to enhancing procedural fairness, as offering voice via process and decision control enhances stakeholder perceptions of procedural fairness. The study found that WHS Queensland, the jurisdiction where WHS EUs have been used the longest, combined both process and decision control elements into the EU process, promoting fairness perceptions.

The third type of justice in the study's framework, interactional justice, is the social aspect of procedural justice based on the quality of interpersonal treatment and communication individuals receive from the regulator during the enactment of organisational procedures [76]. Four qualities in the communication between the regulator and decision-recipient promote interactional justice: truthfulness, respect, propriety, and justification. These factors are variable depending on the individual situation, however, the study found that the negotiation and feedback process of EUs allowed for positive perceptions in the area of justification, that is adequate and transparent rationale was given for each decision.

Overall, despite widespread acknowledgement of the disproportionate nature of EUs as a sanction, stakeholders still had a general perception of the process as fair. Many stakeholders did, however, say that they did not anticipate the cost of the negotiating process of EUs heading into the process [76].

Cost and non-monetary penalties

In one of the few studies on the impacts and implementation of EUs in the WHS space, Johnstone and King [75] found that the total amount spent in an EU (the first stage) in relation to WHS in Queensland was on average six to eight times the cost of the fine that may be expected if the offence had proceeded to prosecution. While the review was conducted in the early stages of operation of the EU procedure in Queensland, and as the procedure became more entrenched it is expected that costs would have decreased somewhat, EUs were consistently costlier for businesses than court-imposed penalties for the same offence.

Johnstone and King argue that EUs have the potential to achieve deterrent, rehabilitative and restorative outcomes for the regulator more cheaply and faster than prosecution. While they acknowledge that administration of EUs can be labour intensive for the regulator, the process is generally less costly and time consuming than the prosecution process [75]. Prosecutions are demanding in terms of resources, time and effort devoted to the preparation and conduct of the case by the prosecution team and the defence team, and in court administration costs, as well as prone to delay. Prosecutions are also by definition adversarial and preclude the kind of cooperative negotiation that best achieves the desired organisational cultural change sought by the responsive regulation principles. However, the increasing uptake of EUs across harmonised WHS jurisdictions in Australia shows their effectiveness as they are consistently a more attractive alternative to prosecutions despite the potentially higher price tag for offenders. To a certain extent, this increasing popularity can also be seen as a proxy measure of the effective deterrence of prosecutions manifesting as an impetus to initiate an EU.

The success of EUs can also be seen to have advanced the argument that Australian WHS policy makers should improve prosecution sanctions by including non-monetary penalties [75]. As the Australian Law Reform Commission notes, the advantages of non-monetary penalties include [83]:

- Potential to tailor the sanction to suit the offender and what that offender needs to do to comply in the future;
- Potential to direct a sanction towards internal reorganisation and facilitate the behavioural change necessary for compliance;
- Ability to better align the sanction with the purpose.

However, given the multitude of difficulties in normalising the outcome of prosecutions when sentencing is out of the regulator's control, the enforcement tool most capable of progressing wider compliance through non-pecuniary sanctions is still the EU.

Consistency vs. creativity and innovation in content

Within implementation of EUs across various regulatory areas there is a very real tension between consistency and creativity in determining the actual terms of EUs [77]. A crucial and oft-cited advantage of EUs is that promises made in an undertaking can go beyond "mere compliance" and the payment of financial penalties to address the issues underlying the non-compliance. Solutions might go beyond traditional penalties and other court orders, creating tension with regulators' need to be seen to act consistently and not overreaching their power and discretion.

Some of the more creative terms that regulators have used in EUs may be very positive and forward-looking, but may also be quite difficult to enforce in practice. For example, certain ASIC EUs essentially place obligations on third parties, not necessarily bound by the EU, where the undertaking requires that someone like a financial advisor (the person giving the EU) works only under certain supervision arrangements. The employer of the person giving the EU purportedly has certain obligations, yet is not a party to the undertaking. This can happen in WHS EUs where a party gives an undertaking to make payments to a third party for a specific purpose, such as industry education. At a roundtable of regulators [77], the ACCC representative commented that they foresaw this problem and addressed it: when a firm agreed in an ACCC undertaking to pay money to third parties to be used in a certain way, the ACCC made sure to obtain deeds of undertaking from the third parties as well about the use of the funds to support the EU.

Under harmonised WHS legislation, regulators are required to set out guidelines for acceptable EUs, and as the practice becomes more established in each jurisdiction, regulators have developed at least a brief template of standard terms for EUs. Among regulators in different sectors there appears to be consensus not to allow terms that seek to positively advertise the entity offering the EU or that are aimed solely to preventing reputational damage [77]. Indeed, some of the regulators that have been using EUs for a longer time, such as the ACCC, have developed quite sophisticated templates and principles as to what they expect to see in an EU. The ACCC's standard terms include different sets of clauses describing the requirement for compliance systems the business must implement depending on the size of the business [77].

Accountability in decision making and monitoring

Within the EU process across sectors there is a tension between flexibility and accountability. While it is important to give regulators the power to accept EUs in recognition that there are situations where it is appropriate to trust regulators and PCBUs to work together to negotiate an appropriate resolution where there has been a breach without it having to go to court, transparency and accountability within the process is crucial to preserve the integrity and justice of the enforcement mechanism [77]. Issues of accountability, transparency and inclusion arise primarily at two stages: the decision-making stage about whether to accept or reject an EU and during monitoring of compliance with the EU once accepted. Public confidence is essential to the effectiveness of EU and trust in the regulator's process for negotiating and deciding whether to accept or reject applications for undertakings. In the latter stage, the enterprises and individuals giving EUs need to be monitored to ensure compliance and if necessary, the regulator needs to take enforcement action in relation to breaches.

The Australian Law Reform Commission recommended in its 2003 review of federal civil and administrative penalties in Australia that all regulators with authority to accept EUs develop and publish guidelines about how EUs will be used, and this review formed the basis of the WHS harmonisation provisions calling for publishing of EU guidelines for WHS EUs [77, 83].

In NSW, the published guidelines were recently updated to make the overall process for EUs clearer and more transparent [79]:

> *The assessment by SafeWork NSW of a proposed EU will involve two stages of consideration; an 'eligibility' assessment followed by an 'evaluation' assessment.*
>
> 1. *Eligibility – The first stage is initiated from an expression of interest by the person to SafeWork New South Wales about the possibility of an EU. It involves consideration as to whether an EU may be an appropriate enforcement measure, taking into account the circumstances of a particular incident and the compliance history of the person.*
>
> 2. *Evaluation – The second stage is initiated when SafeWork NSW determines that an EU may be a viable option after assessing the person's eligibility. The person submits a written EU proposal to SafeWork NSW and the merit of the proposal is then considered.*

The guidelines also set out the general principles considered when assessing eligibility and during evaluation. The literature shows there is a diversity of different internal processes by which regulators decide on accepting or rejecting an EU across jurisdictions and areas of law [77]. For example, the ACCC uses a weekly enforcement committee at the highest level for all enforcement decisions, where the head of the agency must sign off on all EUs. After that, internal legal officers check that the EU is precise, enforceable and uses the ACCC's standard template provisions for EUs appropriately. The internal monitoring unit then checks that it has sufficient reporting mechanisms for reliable monitoring. In contrast, at ASIC, there is a range of senior staff with delegated authority to accept an EU as individuals.

In one of the few comprehensive reports of EUs in the WHS space in Australia [67], the most developed approach to evaluating and monitoring EUs in 2015 was found in Queensland. Offers of EUs were managed by an EU Unit. A Senior Advisor made initial contact with the PCBU or other duty holders offering an EU and, together with a Coordinator, advised them on requirements, and negotiated the undertaking. Once accepted, a second Senior Advisor was responsible for advising the duty holder on compliance with the EU, and for monitoring compliance. In another study from 2010 (and in a non-harmonised jurisdiction), Johnstone and Parker [77] found that Victoria had

one senior person decide on EUs as well as on whether to prosecute. Since an EU acceptance is effectively a decision not to prosecute and health and safety offences are indictable in Victoria, this decision is also reviewable by the Director of Public Prosecutions.

The legislative provisions governing regulators' EU powers say that the regulator "accepts" the EU, implying that it is the PCBU's initiative to offer it in the first place. In the 2010 roundtable of regulators, Johnstone and Parker [77] found that in practice, however, there was a range of approaches used in relation to the extent to which regulators invited, requested, or more strongly suggested to duty holders that they should give an EU to the regulator. Some, like the ACCC and CAV, decided relatively early in the investigation and enforcement process that an EU would be the best way to resolve a matter and proceeded to inform businesses, while WHSQ and ASIC tended to wait for the business to raise it. In 2010, before harmonised laws were fully in force, the WHSQ reported that they were becoming more proactive about inviting offers [77].

Formal accountability is of particular concern at the decision-making stage where an EU is accepted or rejected and should be transparent, consistent and subject to judicial review. In a review published at the same time as WHS harmonisation was taking place in Australia, Johnstone and King [75] made recommendations on EU best-practice based on their operation in other areas of law and the well-developed process in Queensland WHS law. They argued there should be informal and deliberative accountability in the sense that all affected parties must be identified and involved in the decision-making process. For example, representatives of employer associations, trade unions and the regulator could be involved in the decision-making and that any workers affected by the contravention which led to the undertaking, should be consulted.

Johnstone and King [75] also called for decisions to be made publicly available. This allows for scrutiny of regulatory discretion and may benefit the business as it will be seen as taking responsible action in relation to its breach [75, 84]. It also allows lawyers, industry and consumer groups to assess the regulator's performance in accepting EUs while giving the regulator the opportunity to explain and justify policy position and practices. Furthermore, it provides insight for others as to contents of EUs that have been negotiated previously, empowering them to bargain more effectively [85]. As businesses and lawyers become more familiar with EUs, they are more likely to initiate the offer of an EU, but the process must be transparent and conducive to businesses without expensive legal resources initiating the process.

Monitoring

Monitoring compliance is the second stage where accountability is central to the credibility of EUs as an enforcement. Regulators require both capacity and commitment to rigorously monitor standards in order for the EU to operate successfully and credibly [84]. Suggested key recommendations for effective monitoring of EUs include [48]:

1. *Monitoring is conducted centrally within the regulator, rather than by the officer who investigated the original contravention that led to the EU.*

2. *The regulator should publish clear policy and guidance on:*

    a) *the required qualifications of auditors;*

    b) *issues of conflict of interest, such as previous involvement with a company; and the requirement that there be different auditors monitoring compliance with specific requirements (e.g. implementation of a specific management system), and periodic monitoring of compliance with the terms of the undertaking generally;*

    c) *requirements of a compliance program audit, how compliance with an EU is to be assessed, requirements for the frequency and content of compliance audit reports; and how the regulator is to monitor the reports of third party auditors;*

3. *Regulator have continuing and responsive engagement with the auditor(s) and the firm.*

4. *The regulator undertakes an audit of compliance with the terms of the EU at the completion of each undertaking*.

The business monitoring and reporting to the regulator on their internal operations and the regulators' capacity to verify the information provided also influence the effectiveness of an EU [85]. As EUs generally require companies to put in place management systems and processes for compliance monitoring, and while it may not explicitly be part of the intent of EUs, in practice, managers are required to improve their understanding of the harms the previous behaviours caused and how to address them. The key reasons why managers have made sustained changes in the past include [85]:

- the understanding of the consequences of their previous practice, and
- the feeling of shame about the consequences that this understanding triggered.

EUs therefore act on normative motivators and incorporate elements of a restorative justice approach, not simply deterrence of prosecution and the EUs in the WHS domain have resulted in significant ongoing changes in safety practice. Interviews with managers of these businesses suggest that EUs work because they [75]:

- increase management commitment to compliance,
- make the business learn how to comply, and,
- embed compliance in the organisation.

While potential mechanisms were not explored, a number of themes emerged; EUs carry significant weight inside the PCBU as a legally binding agreement. This legal authority of the EU is seen as a critical factor by the managers responsible for implementing the changes within their organisations, giving them credibility to change internal practice. The second theme was the long-term way that EUs encourage managers to take ownership of safety, often resulting in positive feedback about the impact of EUs and their impact on the business [75].

Timing

The timing of when the PCBU is made aware of the option for an EU may also have an impact on their effectiveness. Because they are initiated by the PCBU, they must have sufficient awareness and understanding of the process in order to begin the negotiation and drafting of terms. As EUs become more common, awareness of the option will increase throughout industries. However, in the meantime, businesses potentially facing enforcement action for the first time, when and how they find out about EUs may have an influence on the EUs effectiveness.

A 2015 review looked at different methods of informing PCBUs of their options in different jurisdictions and found that one regulator promoted EUs by writing to duty holders after the investigation process concluded that an EU may be an alternative to prosecution. Another regulator followed the practice of inviting PCBUs to propose an EU [67]. Similarly, the then practice in Queensland was to provide information about EUs when a prosecution was initiated by asking the defendant whether they would like to offer an EU. The EU Unit saw its role as promoting and encouraging undertakings as a good investment by the PCBU, rather than waiting for an offer to be made [67].

Third party voices

Enforceable undertakings do not do away with the civil rights of redress of victims and third parties. There is still discussion in the literature of the effect of EUs on the rights of victims to receive further compensation beyond any provided for in the terms of the EU. In their 2002 review, one of the recommendations of the Australian Law Reform Commission related to the need for regulators to address in their published guidelines on the use of EUs when and how third party interests will be taken into consideration, including the standing of third parties to bring an action against the business, and the ability of third parties to access information acquired under compulsion by the regulator [83]. How EUs are interpreted in other courts is largely outside of the regulator's control, but the review recommended providing information early in the EU process that the process is independent of other potential civil action that may be brought against the PCBU or individual.

In a 2017 study exploring stakeholder perceptions of the WHS EU process in Australia [76], the views of affected third parties were investigated as to how they are sourced and incorporated into the EU process. Generally, the views of affected third parties were sourced independently of the offending entities. By inviting affected third parties to voluntarily participate, the process and decision control fairness principles are reinforced for this stakeholder group [76]. However, if their

views and ideas are neither acknowledged by the decisionmaker nor visible in the published EU, this likely frustrates the process and affects the credibility of the EU process overall. Offering a voice without acknowledging that voice can therefore have a negative impact on the affected third party, lowering fairness perceptions and reducing trust in the process and confidence in the decision-maker [76].

Understanding penalty notices

A penalty notice (also known as infringement notice, on-the-spot fine or expiation notice) is an administrational sanction outlining the details of an offence and gives the alleged offender the option of either paying a fine or electing to settle the matter in court [5]. The fine can only be issued for certain offences as outlined in the respective regulation or Act and the amounts usually reflects a fraction of the maximum penalty the court would issue for the same offence. The maximum penalty is therefore much higher than the penalty notice, but can be reduced by the court after considering aggravating and mitigating factors, such as the offender's compliance history or ability to pay. The penalty notice, conversely, is generally fixed and does not consider personal or circumstantial conditions.

The role of the penalty notice is to act as an intermediate step in a graduated regulatory response, being harsher than other administrational remedial tools, such as improvement notices, yet more lenient than prosecution [51]. The penalty notice system thereby effectively reduces red tape for the regulator and facilitates the processing of large-volume, minor violations that do not warrant court judgement [51]. The penalty notice system also provides similar benefits to the alleged offender. The option of a penalty notice instead of prosecution can result in significant time and cost-savings from not having to go to court, lower penalty amounts and less impact on their criminal record [51].

The benefits and success of the penalty notice system has seen it implemented across most jurisdictions in Australia and internationally, with the number of penalty offences steadily growing and incorporating increasingly severe offences [28]. Well-known examples demonstrating the wide application of penalty notices across jurisdictions include parking tickets, littering fines, fines for fare evasion on public transport and shoplifting. The main aim of the penalty notice is not to facilitate the processing of violations and to punish people for their wrongdoings, but rather to attract attention and deter future non-compliance.

The use of penalty notices across jurisdictions

The penalty notice has been used in the field of WHS in Australia since the early 90's [29, 56]. New South Wales has been the primary user of penalty notices and most other WHS jurisdictions did not incorporate them into their approach until the development of the NCEP [17]. The NCEP states that the role of the penalty notice is as an immediate form of punishment for certain types of breaches to send a clear and timely message that there are consequences for non-compliant behaviour. Penalty notices are therefore recommended where there is some punishment warranted but the nature of the offence is not serious enough to warrant prosecution. That is, the offence is minor in nature, would not give rise to a right to trial by jury and the evidence is substantial [17, 64].

Alternatives to a penalty notice on the higher end of the scale are prosecutions and EUs, while on the milder end of the scale, their main alternatives are administrational/remedial notices. In jurisdictions including NSW, for example, an improvement notice may be issued stating that an identified risk must be mitigated within a specified timeframe. A penalty notice is then commonly applied as a secondary measure if the milder remedial notices are not acted upon in a timely manner [64]. In other jurisdictions, these matters may be considered serious enough to warrant investigation and prosecution [17]. If the identified risk is immediate or imminent, a prohibition notice can be issued where work must stop until the risk has been mitigated. If the duty holder is unresponsive and contravenes the prohibition order, escalation to prosecution is the most common response [17].

In the consideration of whether to issue a penalty notice for repeated non-compliance, the inspector will firstly identify if the incident is scheduled as a penalty offence and whether there is sufficient evidence to establish a *prima facie* case against the alleged offender, that is, whether there is substantial initial evidence [64]. As the issue of a penalty notice effectively expiates a matter, they are generally not issued for offences where an injury or death has occurred to maintain the possibility of a full investigation and prosecution [86].

Other considerations when deciding whether to issue a penalty notice are similar to the decision of whether to prosecute. These include; whether the offence is prevalent within the industry and the notice is likely to generate general deterrence; whether the business/employee is licenced or otherwise authorised or trained; and whether they had prior notice of the risks, for instance, via codes of practice, safety alerts or guidance sheets. General mitigating and aggravating factors are also considered including level of co-operation, willingness to comply, how far below the acceptable standards the conduct falls and the extent to which the offender contributed to the risk [86].

When delivered, either in person, by post or via email, the penalty notice must be paid within a certain number of days. The duty holder also has the right to request an internal or external review of the penalty and/or may then refer the matters to be settled by prosecution [64].

New South Wales

Historically, majority of penalty notices issued in NSW were related to the general offence of failing to secure health and safety rather than for specific contraventions. After the harmonised laws were implemented, this general notice was no longer permitted and the regulator adopted a more advisory than punitive approach, consistent with the nationally harmonised guidance, dealing with these issues primarily through improvement notices and informal agreements if not able to commence prosecution. The regulator has since introduced new scheduled penalty notice offences, primarily for strategic purposes. These include penalty notices for asbestos related work in February 2015, and unauthorised work and falls from heights in November 2017 [87]. The new offences provided a strategic advantage to reinforce the seriousness of priority issues with duty holders following large awareness campaigns. Coordinated efforts, or "blitzes" have been used to target the construction industry to further reinforce awareness such that duty holders who had not yet acted on the information from the awareness campaign were spurred into action.

Currently in NSW, penalty notice amounts are set in three tiers relating to the seriousness of the offence with separate amounts specified for businesses and individuals. For corporations, penalties range from $720 for minor offences including those related to licencing administration, up to $3,600 for more serious offences such as risk of falls from heights. The corresponding amounts for individuals (sole trader PCBUs and workers) range from $144 to $720 [88]. The three tiers of penalty notices relate to the three tiers of maximum penalty amounts that are listed in the NSW and model WHS Regulations [88] and are currently set at ~12 % of the maximums, albeit with a few exceptions.

Victoria

WorkSafe Victoria (VIC) is a signatory of the NCEP but has yet to implement the model laws. It therefore follows the *Occupational Health and Safety Act 2004* (VIC) and *Occupational Health and Safety Regulations 2017* (VIC). Their compliance and enforcement guidelines [89] aims for proportionality between the enforcement action and the offence, suggesting penalty notices only be used as an alternative to prosecution for minor offences. Their general prosecution guidelines further outline suitability criteria for court proceedings suggesting when a penalty notice is not appropriate. These are very similar to those outlined in the NCEP [17, 90].

While the legislation, regulation and the enforcement guidelines have permitted the use of penalty notices in VIC for over 14 years, specifying that amounts up to 20 % of the maximum penalty or 10 penalty units may be issued, VIC has not implemented their use in practice [91]. A review of the Victorian Compliance and Enforcement framework in 2016 recognised this disparity, and recommended that VIC consider developing regulations to enable the use of penalty notices [91]. While the VIC government has acted on most of the recommendations from the review, the response regarding the adoption of penalty notices stated that they support the recommendation in principle and that the offences for which penalty notices may be used will be considered. They have however not nominated a timeframe in which they will do so [92].

Queensland

In Queensland (QLD), Workplace Health and Safety Queensland (WHSQ) follows the harmonised legislation and the NCEP [17, 93]. Since the implementation of the harmonised *Work Health and Safety Act 2011* (QLD) and the *Work Health and Safety Regulation 2011* (QLD) the penalty notices issued in QLD are primarily for administrational matters rather than matters pertaining to risk. However, in their combined role as the Electrical Safety regulator, WHSQ also have some risk-based penalty notice offences, e.g. related to unsafe electrical work and proximity to powerlines.

The penalty notice offences and amounts related to the *WHS Act 2011 (QLD)* are listed in Schedule 1 of the QLD *State Penalties Enforcement Regulation 2014*. Separate amounts are given in penalty units, ranging from 1 $^{11}/_{25}$ to 7 ½ units and 7 ½ to 36 units for individuals (PCBUs and workers) and corporations, respectively. The maximum penalty amounts for use by the courts are set out in the Act and Regulation and range from 12.5 to 60 penalty units. The penalty notice amounts therefore correspond to between 12% and 60% of the maximum penalty amounts. The penalty unit, set out in the QLD *Penalties and Sentences Act 1992*, is a legislative mechanism by which penalty amounts can be adjusted on an annual basis. The amount is determined by the Treasurer as published in the gazette by 31 March each year. The current *Penalties and Sentences Regulation 2015* (QLD) lists the value of one penalty unit in Queensland as $126.15. Actual dollar amounts of WHSQ penalty notices therefore range from $181.65 (1 $^{11}/_{25}$ units) to $4541.40 (36 units).

The use of penalty notices in other legal areas

Road safety NSW

One of the most well-known penalty notices applied are fines associated with non-serious, clear-cut, traffic violations. Examples of penalty notices used in the field of road safety in NSW include:

- Parking in the wrong location: $110 to $330 depending on location [94]
- Parking for too long in a timed area: $110 [94]
- Speeding: $116 to $3,613, depending on the speed over the limit and size of the vehicle [95]
- Not using a seat belt: $330 to $1392, depending on number and age of unrestrained passengers [96]
- Driving without being licenced: $796.

The fines are issued on-the-spot, via email or by post. In addition to a fine, traffic offences in NSW also imposes demerit points. This point system allows different classes of driver's licence a certain number of demerit point limits. For example, an unrestricted car driver's licence allows up to 13 demerit points for a period of three years. If a licence holder commits several or severe traffic offences, the point limit will be exceeded and the licence will be suspended. If a licence holder exceeds their point limit more than twice in a five-year period, they have to redo training to regain their licence to drive [97].

The point system is also used to deter risky behaviours during certain times and in certain locations where there is increased traffic and more pedestrians on and beside the road. This is achieved by doubling the demerit points issued for traffic offences for example during public holidays and in school zones [97]. Similarly, inexperienced and young drivers have been identified as higher-risk and are given lower point limits, ranging from 4 points for a learner driver to 7 points for a provisional (P2) driver. Conversely, professional drivers receive a demerit point limit of 14 points [97].

Environmental safety NSW

There is a several pieces of legislations relating to the safety of the environment in NSW. Some that allow the use of penalty notices are ones that protect the environment from pollution and contamination and those ensuring sustainable planning and development. Some examples of penalties include:

- Illegal dumping of asbestos: $7,500 for an individual, $15,000 for a corporation [98]
- Failure to monitor noise and dust levels of business operations: $7,500 of an individual, $15,000 for a corporation [98]).
- Littering: $250 for an individual, $500 for a corporation, $900 if the offence includes a lit cigarette under extreme fire hazard conditions.

- Removing a tree without development consent: $3,000 for an individual or $6,000 for a corporation [99].
- Building a house that does not meet the fire safety standards: $3,000 for an individual or $6,000 for a business [99].

Food Safety NSW

The NSW Food Authority ensures safe food for people across the food industry supply chain, focusing on reducing the prevalence of foodborne illnesses [100]. Examples of penalties imposed by the NSW Food Authority include:

- Inappropriate storage of food items: $440 for an individual, $880 for a corporation [101].
- Not providing single-use hand towels to staff: $440 for an individual, $880 for a corporation [101].

The NSW Food Authority publishes all their penalty notices on their publicly-available register of penalty notices [101] which includes business names, location, the party served, the date of the notice and details of the offence.

Liquor and Gaming NSW

The Department of Industry Liquor and Gaming NSW is the regulator for the responsible service of alcohol and responsible conduct of gambling. Fines issued include:

- A worker not carrying valid certification: $55
- Establishment not certified: $550 for an individual, $1100 for a corporation [102].

Evidence of effectiveness

The academic literature on the effectiveness of penalty notices to deter non-compliance with WHS legislation is relatively sparse and majority is of poor quality [15, 103]. Reasons for this relates to the nature of the field where the causes and effects easily become entangled, making it difficult to link specific actions to outcomes.

Nevertheless, two systematic literature reviews have been completed in recent times and evaluated the combined evidence supporting the effectiveness of penalty notices. The first identified strong evidence that inspections with penalties reduced injury rates, whereas inspections without penalties had little effect [15]. The other review concluded that the effect of fines and penalties was uncertain due to the low quality of research. However, agreed that limited evidence suggested that inspections with penalties, and with more penalties, were more likely to hinder reoffending. This was however only true for small businesses and only in the short-term, since the same effect could not be found in larger businesses or after follow-up a few months later [103]. Similarly, only limited evidence supports the concept of a general deterrence to the wider community by imposing penalty notices [15, 29, 103].

A number of qualitative reviews have also been undertaken regarding the perceived effectiveness of penalty notices in WHS [13, 29]. An early review completed by the Australian National Occupational Health and Safety Commission identified a series of studies from the United States that demonstrated that relatively small fines were effective in changing employer behaviour [29]. The authors suggested that the reason why inspections with small or no penalties have little effect may not be due to the monetary amount being insufficient but rather whether the penalties were delivered in a way that attracted sufficient attention from management. The same review further argued the importance of follow-up such that a threat of a penalty, or the application of a penalty, does not lead to complacency and continued non-compliance [29].

Other qualitative surveys have identified that small businesses and those that do not have major obvious hazards are often too preoccupied by more pressing matters, such as budgets and production concerns, to prioritise education and consider long-term health and safety issues. They therefore do not rationally account for longer-term costs and benefits of preventative safety measures [15]. These business managers are often not receptive nor pay attention to soft, supportive approaches [30], potentially explaining why penalties is more effective for these businesses.

Case study: Falls from height

The statutory review of the *WHS Act 2011* (NSW) identified evidence that penalty notices may be effective in preventing falls from heights. The penalty notice for falls from heights was permitted under the old NSW legislation but was removed as part of the 2011 harmonisation process. Since the removal, the number of notifiable falls from heights significantly increased from a three-year average of 358 (from the early part of the decade) to a three year average of 785 by 2016 [104]. The review also suggested that there was a high level of reoffending, particularly within the construction industry, where the application of improvement and prohibition notices had been ineffective in offsetting the observed increase [104].

Road safety

Several studies have investigated the deterrence effect of penalty notices in relation to traffic offences over the past 40 years. Majority have focused on the impacts of a penalty notice on subsequent reoffending via drunk driving and crash risk, and have arrived at mixed results. Most find little effect of issuing penalty notices or only in subgroups such as first-offenders [58].

An example study identified a significant decline in speeding reoffending in a cohort of nearly 30,000 drivers in Maryland, USA [105]. A similar study in Ontario, Canada, found a 35% lower risk of car crashes for people who received a penalty notice for a previous traffic offence, compared to the control group which had not received a penalty notice [106]. The same study also identified that the reduced crash risk gradually reduced to zero at four months after the issue of the penalty. Interestingly, a very similar study conducted on drivers in Queensland identified that a speeding fine (issued by speeding cameras) resulted in higher, not lower, crash risk among drivers, which lasted for up to six months after the fine [58]. The authors argue two of several interesting explanations; perhaps the fear of further penalty made drivers overly cautious and thus increased their crash risk? Or perhaps the drivers were seduced by the "gambler's fallacy"; where a person believes the likelihood of getting caught and penalised again is exceedingly unlikely [58]. More likely, however, the authors suggest is that the penalty notices themselves were not exerting an effect on crash risk but rather acted as a marker for risky driving episodes [58].

A systematic review of 35 studies investigating the effects of speed cameras on car speeds and crash risk identified that cameras reduce speeds by 1-15% in 14-65% of vehicles and reduced the rate of car crashes by 8-49% in the vicinity of the speed camera [107]. This further supports that the effectiveness of penalty notices, directly on the duty holder and on the general community, is varied and influenced by multiple factors. Penalty notices are more effective in cases where the penalty notice is given in person rather than in the mail, for citizens who are more virtuous (e.g. first-offenders) and greater general deterrence where the likelihood of getting caught is high (such as by a speed camera). It is therefore likely that in the field of WHS, the protective effect of penalty notices may be short-lived, with little evidence currently supporting continued long-term compliance following a penalty notice.

Factors impacting the effectiveness of penalty notices

Amounts

The effectiveness of penalty notices is linked to the monetary amount imposed, the financial resources of the business and the value of the gains (financial or otherwise) from the non-compliant behaviour. As these three factors will vary among businesses and situations, it is unlikely that a small, fixed value penalty will be effective for a large proportion of businesses.

Making penalty notices variable

It has been proposed that penalty notice amounts could be made variable such that they, like court penalties, considers aggravating and mitigating factors [29, 51]. An example of this system is used by the WHS regulator in the USA where a base penalty is set related to the severity of the offence. The amount is then adjusted based on adding or removing percentages in accordance with penalty adjustment factors. For example, an up to 70% reduction is applicable to businesses with <10 employees and a 60% reduction to businesses with 10-25 employees [108]. Other factors include; compliance history (up to 10% reduction for businesses that have been inspected and found compliant in the last 5 years), good faith (up to 25% reduction to recognise the efforts made to implement an effective WHS management system) and quick-fixes (up to 15% reduction for immediately abating the hazard). The same policy also considers aggravating factors where

penalties are increased due to, for example, repeat offending or unwillingness to comply [108]. While this system seems complex, elements could be included to the Australian three-tiered system to better account for clear-cut factors such as business-size and compliance history.

Making penalty notice amounts proportional

For the penalty amount to be sufficient to generate a deterrence to as many businesses as possible yet remain fair, the amounts need to be substantial but proportional to the offence [6]. The amounts should reflect what the community would deem as appropriate as well as what would be appropriate in their role as an alternative to prosecution. Amounts should therefore be proportionally smaller than the maximum penalties used by the courts to remain a valid alternative for offenders such that they do not voluntarily elect to settle penalty notices in court [51]. As majority of people interact with the justice system via penalty notices, it is also important that the amounts for WHS offences are proportional to other fines, both within the field of WHS but also with other fields and offences of similar severity [51].

A review of the penalty notice system in Australia suggested that an appropriate penalty notice amount would be no more than 20% of the maximum penalty amount for the courts and only in particular instances should penalty amounts reach 50% of the maximum penalty [29]. While this suggests that some penalty notices used by Australian jurisdictions are set at the higher end, it also allows others to be almost doubled. For example, the highest penalty notice amount in NSW is $3,600. A near doubling of the amount would bring it in line with the fines imposed by the NSW Environmental Protection Authority and Department of Planning and Environment for matters relating to illegal disposal of asbestos and buildings that do not comply with fire safety standards (up to $6,000) while still remaining within the 20% proportion of maximum penalties recommendation. A doubling of the lowest penalty amount for an individual (sole-trader or worker) would bring notices up to $250, which is similar to a NSW mid-range speeding ticket or fine for parking in an intersection.

While a doubling of amounts was used here to demonstrate the magnitude of increase that could be justified, a more detailed analysis is required to set actual amounts and ensure the penalties are proportional across WHS regulators, and maximum penalty amounts and fines for similar offences in other areas of law. The analysis also needs to consider what would be a reasonable amount according to the wider community, while also ensuring that amounts are large enough for business management to "sit up and take notice" [109].

Important to note when considering increasing penalties is the disproportionate effect on those with small business-size, low income and low ability to pay [29]. It is therefore important to provide information and support to these businesses, particularly about the penalty appeal process and their options, such as having the penalty reduced by a tribunal or arrange for a payment plan. This minimises the risk of unintended consequences, such as escalation to stronger enforcement actions due to fines not being paid or corporations going out of business [51].

The use of penalty units

The current penalty notice amounts applied in NSW are lower than those scheduled in Queensland. Both states adopted the 2011 model legislation along with suggested penalty notice amounts. The main difference is likely the use of penalty units by the Queensland regulator, whereas NSW have opted for specific dollar amounts. The penalty unit system allows penalty amounts to be reviewed and adjusted on an annual basis to ensures the amounts are up-to-date and reflect factors affecting affordability, such as the rate of inflation. Penalty units also provide a more gradual increase, or decrease, in amounts, thereby minimising the impacts of drastically changing amounts at larger time frames. The benefits and consequences of using penalty units in comparison to dollar amount is likely to impact on the awareness and perceived effectiveness of penalty notices and should be explored in more detail.

Offences

The 2017 statutory review of the *WHS Act 2011* (NSW) legislation stated that the graduated approach of SafeWork NSW to compliance and enforcement cannot be effectively achieved without the ability to issue sanctions [104]. Particularly in high-risk areas, such as those that cause or have the potential to cause serious harm, deal with serial offenders, those unwilling to comply, or those capable of complying but who choose not to [104]. This reflects the long-term, effective use of penalty notices in NSW. With the introduction of the harmonised legislation, the general penalty notice offences relating to failure to ensure health and safety were no longer permitted

and replaced by more specific penalties for primarily administrational issues, therefore reserving risk-based offences to be dealt with by prosecution.

This change in approach to penalty notices likely related to the findings of several reviews completed at the time into what offences are most suitable [5, 28, 29]. The criteria identified are discussed below.

The offence is relatively minor: Suitable offences are those that are minor, victimless or strict liability offences, where the severity does not warrant court judgement or more significant punishment. Offences where serious injury or death has occurred or the risk is high, risk-based principles recommend these matters are better dealt with via prosecution.

There is a high volume of contraventions to justify the cost of establishing a penalty notice system for the offence: The role of penalty notices is to function as an easy and cost-effective alternative to prosecution. To be a valid option, offences listed as penalty notice offences should be ones that occur in high enough volumes to justify the use of a penalty notice instead of prosecution. Furthermore, the penalty notice option needs to result in sufficient time and cost savings for the offender to deter them from electing appeal and prosecution.

Other options are currently insufficient in deterring non-compliance: The responsive regulatory framework states that consultative activities should be prioritised over sanctions, particularly if desired results can be achieved without the application of a sanction [22]. Similarly, remedial notices such as improvement notices are considered more lenient than a monetary penalty and should be considered for the offence in the first instance. However, where remedial notices are insufficient to curb non-compliance yet the matters are not "serious enough" or for other reasons do not warrant prosecution, a penalty notice may be a suitable option.

A fine for the offence is a sufficiently effective means of addressing the offence: Introducing a penalty notice for low-end offences carry the risk of over-punishing if penalties are used where a warning would have been enough [29]. Similarly, introducing a penalty notice for an offence currently dealt with by prosecution may signal to the offender that the offence is no longer a crime or now considered less serious [29]. The efficacy of a penalty notice for any particular offence needs to be carefully trialled before it is rolled out [110].

Specific and general deterrence can be adequately conveyed by the inspector rather than by the court: The regulator needs to be able to adequately deliver the penalty notice in a way that deters the offender. Furthermore, the aim of the penalty notice is also to convey a general deterrence to the wider community by informing that offenders will be caught and penalised. This includes transparency and advertisement to the community about the regulator's enforcement approach and application of penalties.

Issuing a penalty notice for the offence would be considered as a reasonable sanction by the community: Finally, the penalty needs to fit the crime and the amount needs to be considered reasonable for the severity of the offence and the circumstances under which the offence was committed.

Ability to use liability insurance or tax deducting financial penalties

Another major influencer that could significantly diminish the deterrence from fines is the potential for using liability insurance to cover financial penalties and if businesses can tax deduct losses associated with statutory penalties. A review of the WHS legislation in Queensland identified that certain insurance policies could cover the payment of statutory penalties and fines, so long as the breach was not intentional [93].

The delivery of the penalty notice

As discussed in the previous sections, the way the penalty notice is delivered might have large impacts on the effectiveness of the penalty notice in deterring non-compliance. Research has suggested that if a penalty notice can be delivered in a manner that catches the attention of management, they are more likely to act and resolve the issue rather than just pay the fine and continue their non-compliant behaviours [29, 30]. Similarly, it has been shown that education given in person is much more readily adsorbed by businesses than dissemination of written information [111].

The design of the penalty notice documents

The effectiveness of the penalty notice can also be enhanced by the way the notice itself is designed. In many cases, the notice document and associated information is poorly absorbed [111]. It is therefore important that the penalty notice documents convey the right message. Research has shown that if the penalty notice is not understood, it can lead to further non-compliance and unnecessary escalation to harsher enforcement action [28, 110]. Not because the offender was recalcitrant or unwilling to comply, but rather due to misunderstanding and unclear communication around options. Vulnerable groups include PCBUs from non-English speaking backgrounds, small PCBUs that cannot afford to hire WHS expertise and those with poor financial resources or ability to pay.

Examples where behavioural insights research has been applied to improve the effectiveness of the payment of fines and understanding of notice documents includes improvements to the payment forms issued by the NSW Office of State Revenue and the improvements made to apprehended domestic violence orders (ADVOs) at the NSW Department of Justice. Similar changes to the penalty notice document itself, rather than just the payment notice, could be harnessed to more effectively deliver the intended message of the penalty notice.

Improvements to payment notices at Office of State Revenue: To increase on-time payment of fines issued by NSW regulators, including WHS fines, the payment notices were redesigned following these steps:

1. Created a clear call to action (through a 'Pay Now' stamp)
2. Simplified the language to clearly communicate the consequences of not paying the fine
3. Used colour to create a sense of increasing urgency to act, shifting from blue to red as people move further into enforcement action
4. Included statements that most people pay their fines on time

These changes to the payment notice was tested in a series of randomised controlled trials, comparing the effectiveness of the new notices to the original notices. People who received the new notices were 3.1 percentage points (from under 15 % to nearly 18 %) more likely to pay their fine on time [112]. This might not seem like much, but when applied across NSW it resulted in over $1 million in revenue and nearly 9,000 fewer people losing their licences or having their vehicles deregistered each year.

Improvements to apprehended domestic violence orders at Department of Justice: Another example that emphasises the risk of non-compliance, together with other insights mentioned above, was the improvements made to the apprehended domestic violence orders (ADVOs) at Department of Justice to improve defendant's understanding of the ADVOs and thereby compliance. The steps outlined below were followed to make the ADVOs easier to understand:

1. Simplified language and used examples of what the orders meant, e.g. not contacting the victim by social media
2. Personalised the orders and referred to people by name
3. Highlighted the consequences of breaking the order
4. Included information on the impact of domestic and family violence.

The new ADVO was rolled-out across NSW in December 2016. The ADVO are also being translated into different languages and an accessible version is being created [113].

The use of WHS enforcement tools in New South Wales

The number of prosecutions, EUs and notices imposed between 1 January 2007 and 31 December 2017 demonstrate a clear shift in usage corresponding to the adoption of a more advisory approach following the implementation of the harmonised legislation in 2012, with significant reductions in annual numbers during the transition period of 2011-2014 (Table 3).

Not considering the changes in use over time for penalty notices, the proportional use of the different enforcement tools since 1 January 2014, have been: Improvement notices: 87%, Prohibition notices: 11%, Penalty notices: 1.2%, Prosecutions: 0.5% and EUs: 0.1%.

Table 3: Enforcement trends in New South Wales. Number of businesses (ABNs) that have been successfully prosecuted, had an enforceable undertaking accepted, received a penalty, prohibition or improvement notice. Transition period of new legislation in 2011-2014 in bold.

Year	Prosecutions	Enforceable undertakings	Prohibition notices	Improvement notices	Penalty notices
2007	-	-	920	11014	582
2008	-	-	793	10204	541
2009	-	-	686	10898	661
2010	-	-	859	10552	612
2011	**75**	**-**	**610**	**9769**	**488**
2012	**58**	**-**	**502**	**5964**	**140**
2013	**29**	**4**	**488**	**5165**	**74**
2014	**62**	**5**	**511**	**4717**	**39**
2015	37	15	668	6479	75
2016	34	4	835	7182	81
2017	29	2	1324	7728	170

Prosecutions

While the *WHS Act 2011* (NSW) was in power on 1 January 2012, due to the change in venue from the Industrial to District Court and other delays associated with processing prosecutions relating to the older legislation, many NSW WHS prosecutions were adjourned until the first prosecutions occurred in District Court in March 2014. The number of prosecutions therefore had a peak in 2014 with an annual total of 62. In the subsequent three years, the annual average has been relatively stable at an average of 32 prosecutions per year (Table 3).

Majority of prosecutions relate to the NSW WHS regulator's identified priority issues, including "Falls from heights" (21%), "Machine guarding" (6.5%) and "Accidents involving a vehicle" (5.6%). The remaining either belong to other priority issues (18.5%), other non-priority issues (16.7%) or have not been classified in the dataset (31.5%). Similarly, majority of prosecutions were not classified by industry (33.3%). However, most of businesses that had been classified operated in either construction (20%) or manufacturing (16.7%), with a smaller but important proportion operating in consumer and business services (9.2%).

Most prosecutions were imposed on public, private and registered businesses (77.8%). Another important proportion of defendants included the government (1.9%) and 2.8% have been tried as individuals or sole traders. For 12% of prosecutions, the type of offender was not recorded and the remaining 5.6% included trusts, partnerships, other incorporated or unincorporated entities and superannuation funds.

Enforceable undertakings

Enforceable undertakings were a new feature of the 2011 WHS Act with the first accepted in 2013. The number of EUs increased from 4 in 2013, to 15 in 2015. The number then fell to 4 in 2016 and 2 in 2017 (Table 3). Up until the end of 2017, 67 applications were received with 34 being accepted or completed.

As with prosecutions, most EUs occur to public, private and registered businesses (63%). Government-labelled offenders represented 6.7% and no EUs have currently been undertaken by an individual or sole trader. The issues enforceable undertakings were accepted for have included "being hit by moving objects" (17%), "falls from heights" (17%), "being hit by falling objects" (13%) and "trapped by moving machinery" (13%). The main industries that have had enforceable undertakings accepted include manufacturing (40%) and construction (17%).

Penalty notices

The issuing of penalty notices fluctuated in the years leading up to the new legislation in 2012, between a low of 540 notices in 2008 to a high of 660 in 2009. The average during this 4-year period was ~600 notices per year. The change in legislation saw many of the offences for which a penalty notice could be issued removed along with a change of approach to one preferring encouragement over enforcement. The issuing of penalty notices per year subsequently declined

by over 90%, reaching an all-time low of 43 notices issued in 2014. A number of offences were re-scheduled in 2015 and late 2017. The number has since increased to 170 notices issued in 2017.

Penalty notices are primarily issued to public, private and registered businesses (77.2%), 0.7% are issued to government and 12.8% are issued to individuals or sole traders. For 0.7% of penalty notices, the type of offender was not noted and 8.6% include penalty notices for trusts, partnerships, other incorporated or unincorporated entities and superannuation funds. The main industries that receive penalty notices are construction (35.5%), manufacturing (5%), consumer and business (5.5%) as well as retail, wholesale and transport (3.3 %).

Improvement notices

The temporal trend of improvement notice issuing mimics that of penalty notices and drastically declined with the introduction of the new legislation. Prior to 2012, improvement notices were issued on a stable average of ~10500 per year. Following the introduction, the number issued per year declined by 55% to a minimum of approximately 5000 notices in 2013-2014. The numbers have since significantly increased, reaching over 7700 improvement notices in 2017 (Table 3).

Majority of improvement notices are issued to public, private and registered businesses (80%), 1.7% are issued to government and 6.5 % are issued to individuals or sole traders. For 1.2% of improvement notices, the type of offender was not noted and 10.7% include improvement notices for trusts, partnerships, other incorporated or unincorporated entities and superannuation funds. The main industries that receive improvement notices are construction (23%), manufacturing (10.5 %), consumer and business (6.7%) as well as retail, wholesale and transport (5.8%).

Prohibition notices

The issuing of prohibition notices was already declining between 2007 and 2013 (except for the peak in 2010) and did not fall as drastically as the number improvement and penalty notices following the introduction of the new legislation. Instead, the number of prohibition notices issued per year continued to decline to an average minimum of ~500 notices per year in 2012-2014. As with improvement notices, the number of prohibition notices have since increased, reaching an annual total of 1324 in 2017. That is approximately 400 notices per year higher than the peaks in 2007 and 2010 (Table 3).

Prohibition notices are primarily issued to public, private and registered businesses (77.6%), 1% are issued to government and 9.3 % are issued to individuals or sole traders. For 1.1% of prohibition notices, the type of offender was not noted and 10.9% include prohibition notices for trusts, partnerships, other incorporated or unincorporated entities and superannuation funds. The main industries that receive prohibition notices are construction (36.7%), manufacturing (5.6%), consumer and business (4.8%) as well as retail, wholesale and transport (2.5%).

The perspective of Australian WHS regulators

How the tools are used

Most regulators follow a procedure starting with a notification of an incident or complaint. A triage model then assists the regulator to decide in accordance with the regulator's priorities if the notification requires a site visit or further follow up by an inspector. An inspector then contacts or visits the duty holder and completes initial investigations/enquiries. A decision is then made at or after the visit as to what enforcement tool is needed. The decision primarily lies with the inspector but may in some be escalated to more senior officials or panels of officials within the regulator to decide.

The duty holder may voluntarily comply on-the-spot and may or may not be formally recognised for their prompt response. Voluntary compliance can also occur via other non-legally binding warnings or agreements.

An improvement notice is issued if there is a breach of the legislation that does not pose immediate or imminent risk. In jurisdictions where a lower-level "notice" or agreement is not a recognised tool, there can sometime be debate with the duty holder regarding whether the identified improvement is a legislative requirement or not.

"they [the duty holder] believe that while there may be need for improvement or better administration, they are not breaking the law. This umbrage can interfere with the desired improvements or clarifications required by an Improvement Notice."

A prohibition notice is issued for matters that indicate immediate or imminent risk and effectively orders duty holders to stop parts or all of their operation. As with improvement notices, debate might arise regarding the language used and its legal definitions; do prohibition notices only refer to the likelihood of the risk or also the likelihood of an activity?

"*The reasonableness test does not fully consider likelihood of an activity, more it concentrates on likelihood of serious risk."*

A notice may be issued on the spot or after return of the inspector to the office or after a brief or case conference, formally or informally, with team members, supervisors and more senior officials to discuss the enforcement decision.

Following enforcement and the issue of notices, each matter or a random sample of matters are monitored to verify compliance. The matter is then either closed or may be followed-up in several subsequent visits to ensure longer-term compliance.

Considerations when choosing which tool to use, in addition to the immediacy and seriousness of the risk, also includes if death or serious injury is involved, if it is related to a major project or priority issue, if the workplace is the likely cause of the incident, the compliance history, the quality of the evidence and the attitude of the duty holder. Other considerations also include whether it involves a vulnerable person, the public interest in the case and the political environment.

Depending on the above considerations and the criteria outlined in the NCEP, a full investigation may be recommended to prepare the case for prosecution. Many regulators also have well-developed, published guidelines for the development and acceptance of an EU as an alternative to prosecution.

Consistency

Each approach is clearly outlined in the respective regulator's policy and procedure and inspectors are aware of the importance of these guidance documents.

"*Inspectors receive comprehensive training on the issuance of improvement and prohibition notices and the provision of verbal directions. Inspectors are aware that the notices they issue may be reviewed and possibly revoked."*

These documents assist in having a consistent approach and may be combined with comprehensive training, proactive information sharing among inspectors and lessons learnt from the enforcement review process. Quality assurance checks by a manager was also praised for being useful.

"Quality assurance checking mechanisms such as Manager quality assurance checks and quality checks via telephone (post inspection) are very useful."

Some regulators highlighted that they were under strong stakeholder and political pressure as well as issues such as jurisdictional confusion and have therefore adapted the NCEP approach to these circumstances, while still ensuring alignment with the key principles and guidelines. They mention that it would be nice to have a more nationally consistent application but that this may be difficult.

"While the enforcement tools available are effective, because each jurisdiction has different priorities and issues to address at a local level, which can change depending on the government of the day, it can be difficult to maintain consistency in approach at a national level."

Effectiveness

All regulators agree that their approach is effective and refer to reductions in incidence rates of workers compensation claims and the number of work-related fatalities.

Some regulators prefer the support and education approach over the use of improvement, prohibition and penalty notices and considered it highly effective in most instances, while others considered their approach more effective as it was "more punitive" than that of other jurisdictions.

> *"They [improvement and prohibition notices] are not used as tools of first resort however, as quite often discussions with PCBUs … are highly effective at improving safety outcomes. The use of such undertakings is the preferred method of enforcing WHS law in [our jurisdiction]. This is because quite often transgressions are inadvertent and minor in nature or are more administrative than dangerous."*

Suggested or planned improvements to the local or national enforcement approach

While some regulators have used penalty notices for a long time, others prefer to use prosecutions when a sanction is required. Some jurisdictions have recently decided to start using penalty notices while others aim to increase penalty amounts.

The regulators also raised a number of issues that could be addressed at a national level. The issues in language surrounding improvement and prohibition notices already mentioned were highlighted as an issue that have already been raised, to some extent, in the national debate. While no solution or examples were offered, other highly relevant issues and questions raised included:

- difficulty of securing compliance with recalcitrant serial-offenders
- reaching distant directors
- designing sanctions that are sufficient to induce action in larger corporations
- management of large interstate businesses
- intrastate consistency issues when compared to the differing approaches of regulators in other areas of law
- managing stakeholder opinions versus evidence of effective use of enforcement tools
- the use of enforcement tools in targeted programs
- the measurement of tool effectiveness and ability to evaluate
- the responsible use of publicity

The perspective of NSW businesses

To explore perceptions of enforcement tools and their specific and general impact on improving WHS behaviour and culture in NSW businesses, qualitative research was undertaken to explore the opinions and experiences of 11 construction, manufacturing and engineering businesses of various sizes and with experience of varying severity of enforcement, operating in NSW.

Perception and experience of the regulator

Awareness of the regulator and its roles varied markedly across NSW businesses. Some, mainly smaller businesses, have had little contact with the regulator and had only a superficial understanding of its role as a regulator. These types of businesses were more reliant on industry associations, events and training, as well as experience, to keep on top of what they should be doing in terms of workplace health and safety as well as updates and changes to regulations. Other businesses, particularly medium to larger businesses, were aware of the regulator's wider advisory role, including prevention measures such as workplace inspections and advisory visits, workshops and presentations, in addition to enforcement.

While some businesses offered positive feedback on educational material and their experiences with the regulator outside of investigation and enforcement activities, others were reluctant to engage more widely with the regulator. Approaching the regulator for information and advice would often not be their first choice and there was a perceived inherent tension in the regulator's role as investigator and enforcer of WHS laws versus its role as advisor, encouraging and empowering businesses to comply.

> *"My perception is that they're all either inspectors or ex-inspectors… Regardless of whether they come on site to help you or inspect or advise … they've still got that inspector's hat on and they can't help themselves …. so, they will find stuff. … If they had a separate department that weren't inspectors… or else just outsource advice and do it through other people, who then could refer those businesses back to the resources at SafeWork NSW, because there's lots of good stuff there."*

This has resulted in dissatisfying experiences for some businesses seeking to interact with the regulator in this latter role. Several participants reflected on the legal implications of inspectors providing assistance and advice and suggested that it may be one of the major sources of this tension.

> *"This is the problem that they have - because their primary role is in enforcement, they're not comfortable giving us advice because if we follow it and someone still gets hurt then they're in an awkward position… the challenge they have is being the regulator and the enforcement agency, then trying to get on the front foot and work proactively with people."*

> *"A lot of the feedback I get from subbies when they're getting fined… when [SafeWork NSW] go onsite… they say, 'well, you're not describing the process of how you do your criteria', but then they can't take responsibility for telling you how to write that SWMS. They can give you a guide but they can't tell you 100% what to put in it, because it could fall back on them."*

In contrast, businesses that had experience of inspections (license, equipment, system checks), sometimes following advice of a "crackdown" or "blitz", with some visits resulting in a penalty or other enforcement process viewed SafeWork NSW (or its predecessors) as having discharged their responsibilities professionally and in a positive way. Some businesses reported that inspectors were commercial, cooperative, communicative, and had an authentic desire to overcome bureaucratic processes to get the issue resolved.

Awareness and perception of enforcement tools

While businesses accepted there is a role for enforcement in improving WHS practices and culture, there was some general criticism of the current system as too rigid. One business argued that the laws were not hard to understand but very difficult to comply with. The business perceived that it would always be judged with the benefit of hindsight following an incident or injury and, since all incidents should be preventable, the expectations set a virtually impossible standard to achieve. The issue of enforcement as "revenue raising" was also raised by some businesses, referring to the size of fines and their understanding of how the regulator generates its revenue. Some suggested that the aim of using fines was not for prevention while others recognised that some businesses lack will to comply in the absence of a consequence.

Awareness of the consequences of WHS breaches was generally felt to be quite limited, particularly among smaller companies, where the experience of an incident was the key catalyst for knowledge. Indeed, having a serious incident was reported as significantly increasing awareness from management to worker level. Reflecting this limited awareness and experience, businesses found it difficult to articulate where the boundaries should lie for applying specific types of enforcement tools, apart from satisfying a general sense of "fairness" considering the circumstances. For example, one businesses thought that for a serious injury or death to occur, there had to be some sort of negligence. Others referred to repeat offending requiring harsher enforcement and unfairness in the industry if some businesses do not follow the rules. There was also recognition that the regulator operates across a wide range of businesses and industries, some of which are perceived as prioritising safety less than others, and thus requiring a stronger enforcement through deterrence.

> *"In the industry that we work, where generally there aren't a lot of companies… that don't have a strong view about safety, the concept around doing an EU would be mostly embraced and fines not so much… There are other industries where nobody really measures how safe you are, or if you've hurt your employees, or the wellbeing of employees, and I would say… dollars rather than other things drive some of the people in those industries and it might be more appropriate to have a fines-based system."*

Except for those who had been subject to a court prosecution, businesses generally felt the penalties that had been applied to them (and others) were appropriate and the inspectors were reasonable in these matters. Those who had an EU (and some of those who had a prosecution) preferred or would have preferred the opportunity to develop and invest money into future safety for their company as opposed to paying a court fine. One prosecuted business also reflected on the higher effectiveness that could be achieved from more regular contact with the regulator achieved through an EU as opposed to simply paying a fine.

Businesses who were prosecuted were generally unhappy about the level of fine they received. However, one business reflected that one would be unhappy, in principle, about being penalised by any amount.

> *"I think it was extremely unfair based on [crimes] you see happening in the community every day of the week… I think it's so… leaning towards getting money out of [businesses]… Friends of ours in a local law firm … even they were shocked at the size of the fine."*

> *"I can't imagine anyone thinking that their penalty was fair… anyone that's been fined for whatever reason is going to be a bit upset and will no doubt go 'that was a bit harsh'."*

For serious incidents, the key criticism from the businesses was the length of time taken to resolve the matters in court or for negotiating an EU, which also had an impact on costs and internal resources. One business shared that an unintended consequence from the extended EU negotiations may be that one would try to hold off on any safety investments in the business until after the EU was in effect. This way any investment could be counted towards the EU.

While direct improvements to WHS was viewed as a key benefit to pursuing an EU, participants were keen to highlight the cost and level of commitment required in time and resources, which seemed to be largely the same, regardless of the seriousness of the initial breach. One business was dissuaded from pursuing an enforceable undertaking as an alternative to prosecution due to the perceived greater cost, time and resources that would likely need to be allocated.

> *"[Our law firm] said every time they've tried to do [an EU] or get something over the line, [an EU] will cost you more than what a penalty is, that's not to say it'll be agreed upon… It was certainly brought up a number of times and their recommendation was not to go there. They said that it will drag on longer, more court dates, more studies… it'll cost you to prepare your proposals and paperwork and studies, and to put all that forward will cost more than what the fine is."*

> *"I think the company would have got off easier if we'd just paid a fine, and we had an understanding of what the level of fine would be based on other injuries of a similar nature. It's not apparent to me that the size or breadth of the EU varies depending on the injury… I know the size of the fine will vary… Based on my reading of other EUs… they all seem to me to have a workforce piece, an industry piece, a community piece. I don't think you have to do less, I think they're all of a similar kind of size… The NSW one is a lot more onerous [than Victoria]."*

Specific and general deterrence of WHS enforcement tools

Enforcement tools appear to have some direct positive impact on WHS. At a minimum, they serve as an opportunity for the business to speak with staff about the breach, and as a specific deterrent to repeating the breach short-term. Businesses reported sending emails to all their builders and subcontractors regarding the outcomes from the breach and overhearing conversations by subcontractors deciding that if it happened again the risk of getting fined and the cost was too high for there to be a point in continuing the non-compliant behaviour.

The experience of enforcement also encouraged businesses to self-audit, re-evaluate and revise their wider practices and systems in the longer term. For some, improvement and prohibition notices were used to highlight issues to fix in their workplace, while others implemented deeper investigations for repeat incidents leading to more systemic changes. Enforceable undertakings were viewed as particularly effective at improving both the specific WHS practices related to the breach, and the wider WHS culture, through new or enhanced systems, as well as engineering, awareness and training. Moreover, the EUs were used as an opportunity to share stories across the business and bring the workforce along on the journey.

The risk of reverting the EU to a prosecution and the resulting reputational harm served as further motivation to comply with the EU. In contrast, prosecutions diverting funds away from potential safety upgrades or driving businesses to hide non-compliant behaviours, were reported as negative consequences following court procedures. Some businesses said that not much had changed in their workplace as the resources earmarked for safety was now spent.

In terms of general deterrence, enforcement experiences were often known about within industries, industry associations and other networks. Details were shared informally by employees, sub-contractors or even suppliers to affected companies. Some businesses highlighted that it was

primarily related to the incident itself or that the business was being investigated by the regulator and less about the fines imposed. Larger businesses were more reluctant to share this type of information for competitive and reputational reasons, reporting that they were much more likely to share injury prevention approaches than details about injuries or enforcement.

While there was little awareness that more cases are detailed on the regulator's website. Media coverage of prosecution outcomes or new EUs was a key source of information about WHS breaches, much to the chagrin of the companies and individuals who were mentioned publicly. Both media and more informal channels generated opportunities for businesses to discuss or better inform themselves about WHS; alerting businesses to regulations or changes they were unaware of, relevant regulator activities, and potential new hazards to check for had a positive impact on improving WHS practices.

> *"We're in the same industry – we've got the same equipment, the same processes, the same potential risks so we have to take that into consideration. We have to ensure that we're in compliance as well… Even though we've got things in place it makes you refresh what we should be looking at."*

Suggested improvements

1. *Easier access to information*

Businesses highlighted the need to be proactive in order to identify new information and the lack of time to dedicate to those activities. One suggestion included introducing regular, targeted WHS updates via a mailing list and assist relevant businesses to get direct access.

2. *Promote engaging information resources (fact sheets, webinars, LOTE resources)*

It was also highlighted that that the way information is provided is important. Many workers struggle with literacy and the English language, suggesting that more interactive and engaging content was preferred, such as tutorials, live seminars, and spot-the-hazard games.

3. *Streamline, modernise some WHS processes and requirements (e.g. site inductions, onsite documentation)*

One of the main complaints included the very long (4h or more) inductions workers have to attend on each worksite, perceiving only 10% to be site specific, relevant, information. While white cards and passports have been implemented to tackle these issues, the businesses reported that many clients are too concerned about their due diligence to embrace the newer systems. Similarly, the perceived need to keep documentation hinders the use of mobile phone apps, designed to make the process easier.

4. *Increase the emphasis on WHS in pre-employment and on-the-job training*

Several businesses suggested that the safety message should be implemented from the pre-employment stage and should include hot implement the paperwork and strategies to work safety. A strong focus should also be on instilling the right attitude, teaching management skills to managers to ensure workers comply, even without supervision.

5. *Engage more with individual businesses, targeting small business (e.g. mentor program) and higher risk operations*

Face-to-face engagement was reported as a positive approach. Learning from a knowledgeable and well-trained inspector based in the area or being matched with a well-performing, larger business in the industry to learn from. It was also suggested that SafeWork NSW consider the type of work, the sort of budget, the types of risk (e.g. difficulties in the market, old plant) when it prioritises the businesses it engages with.

6. *Engage with business more at an industry level (e.g. trade nights, forums, reference groups)*

The businesses recognised industry targeted events as a promising area to expand, including guest businesses to talk about their experiences to encourage proactive activities and talking about topics that relate to all industries but tailor it to make it impactful for the particular industry (e.g. suicide prevention). It was suggested that a trade night on relevant rules and regulations,

applicable fines and other enforcements, and what you can and cannot do, could be made compulsory for offenders. Another business referred to the former industry reference group where businesses got together, ran programs, mentored each other and provided information.

Likelihood of reoffending

The extent to which prosecutions, EUs, penalty, prohibition and improvement notices reduce the rate of reoffending was analysed using survival analysis (*Figure 2*, Table 4). Prosecutions and EUs had the highest rate of sustained compliance ("survival"). After a year, 90% of prosecuted offenders and 75% of offenders that had an EU were likely to not have received another enforcement. The probability never fell below 70% for prosecutions nor 60% for EUs, giving the two tools significantly higher survival than penalty, prohibition and improvement notices. As with prosecutions and EUs, offenders with a penalty notice or improvement notice had similar but lower probability of survival. However, longer-term (4+ years), the rates begin to diverge with a higher survival for businesses with a penalty notice than those with an improvement notice (*Figure 2*, Table 4). Prohibition notices consistently performed the worst and had the lowest rate of survival. Within 40 days of receiving a prohibition notice, 40% have reoffended and received another type of enforcement. The probability of survival then declined more slowly such that it takes 156 days for 50% survival, and almost 5 years to reach a 25% survival. In this analysis the rate of survival never fell below 20% (*Figure 2*, Table 4).

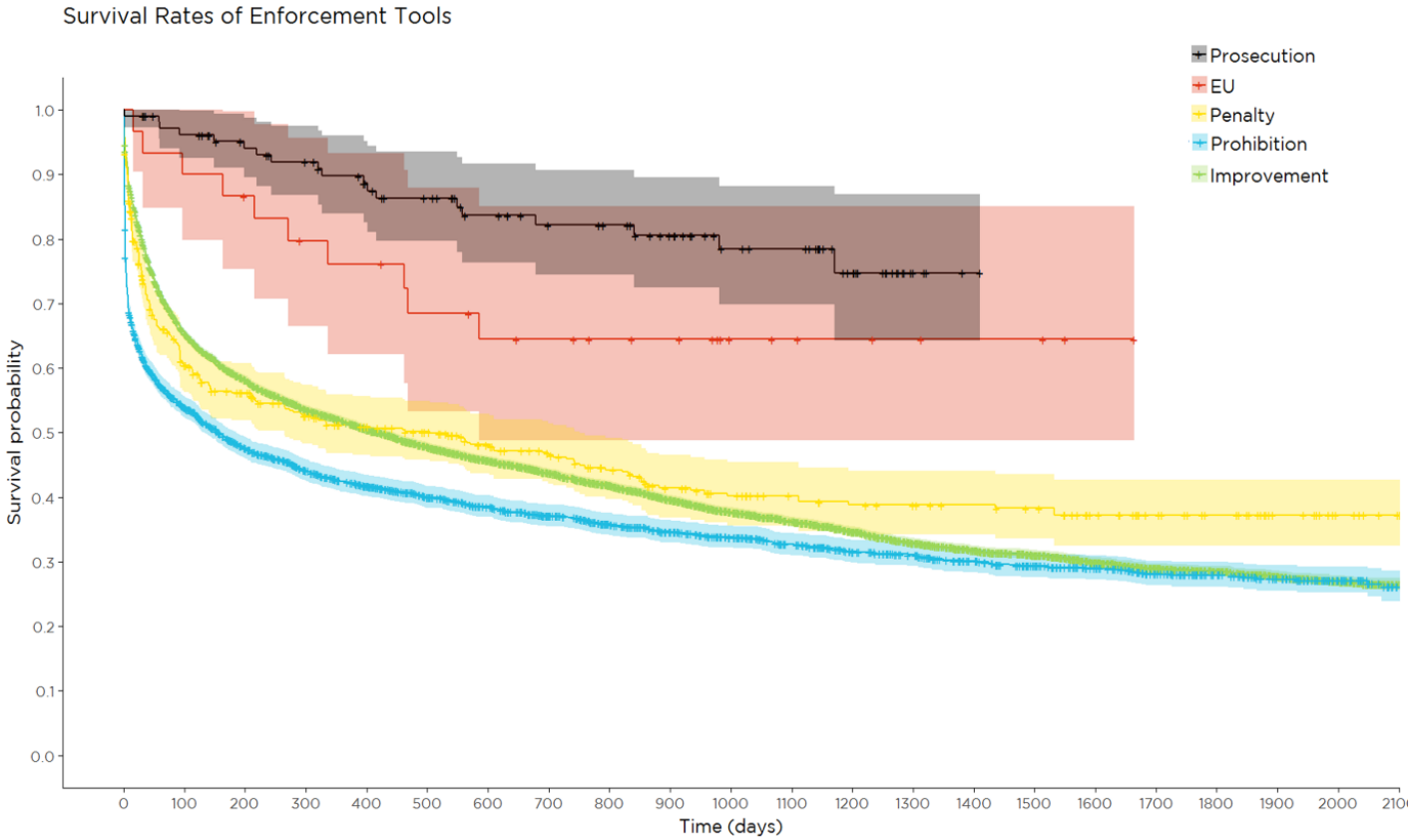

Figure 2: Initial analysis predicting the probability of sustained compliance ("survival") over time (days) after a prosecution (black), enforceable undertaking (EU: red), penalty (yellow), prohibition (blue) or improvement notice (green) among businesses in NSW between 2012 and 2017. Data for EUs was only available from 2013 and prosecutions from March 2014. Shaded areas represent 95% confidence intervals.

Table 4: Durations corresponding to different probability of survival for the different enforcement tools in Figure 2.

	Time (cumulative days)				
Survival Probability	**Prosecution**	**Enforceable undertaking**	**Penalty**	**Prohibition**	**Improvement**
1.0	0	0	0	0	0
0.9	327	97	6	1	7
0.8	841	271	15	2	30
0.7	1171	468	43	7	69
0.6	-	586	112	40	167
0.5	-	-	504	156	425
0.4	-	-	994	497	882
0.3	-	-	1532	1407	1592
0.2	-	-	2164	2118	2155
0.1	-	-	-	-	-
0.0	-	-	-	-	-

The primary type of reoffending for all enforcement types was improvement notices where 82% of prosecuted businesses, 90% of businesses with an EU, 91% of businesses with a penalty notice and 92 % of businesses with a prohibition notice reoffended by receiving an improvement notice. Similarly, 94% of businesses that had an improvement notice reoffended by receiving another improvement notice.

The second most common type of reoffending was prohibition notices for prosecuted businesses (6%), businesses with an EU (10%), businesses that had a penalty notice (5%) or an improvement notice (25%). For businesses with a prohibition notice, the second most common type of reoffending was prosecution (27%). A penalty notice was also the third most likely type of reoffending for businesses with an improvement (19%) or prohibition notice (16.9%).

Impacts of compliance history

The overall survival analysis did not consider compliance history. Instead it treated each enforcement followed by another enforcement as a separate reoffence, regardless of prior offending. If businesses are classified based on their compliance history as Low (zero enforcement per year), Medium (1-9 per year) or High (10+ per year), we found significant differences (Figure 3).

For Low-level offenders, there were no reoffenders recorded for businesses with an EU (100% survival) and very little reoffending for prosecuted businesses (93% survival; Figure 3). There were significantly lower levels of survival for businesses that received an improvement (43% survival) or prohibition notice (47% survival; Figure 3). Overall however, a generally much higher survival probability was present than in the overall analysis (compare Figure 2 and 3).

The medium-level offenders showed a stronger decline in survival than the overall analysis with significant differences among the tools (Compare Figure 2 and 3). Prosecuted, medium-level, offenders had the highest survival rate, whereas those with EUs or a penalty notice had the second highest rate. Medium-level offenders with improvement notices had the second worst probability and those with prohibition notices, again, were the worst performers (Figure 3).

For high-level offenders, there were only two reoffenders that had been prosecuted and no records of reoffending after an EU. However, the probability of survival for the remaining three tools drastically decreased over time with prohibition notices, again, performing worse than penalty notices and improvement notices, which had similar probabilities of survival over time, both of which were worse than in the overall analysis (compare Figure 2 and 3).

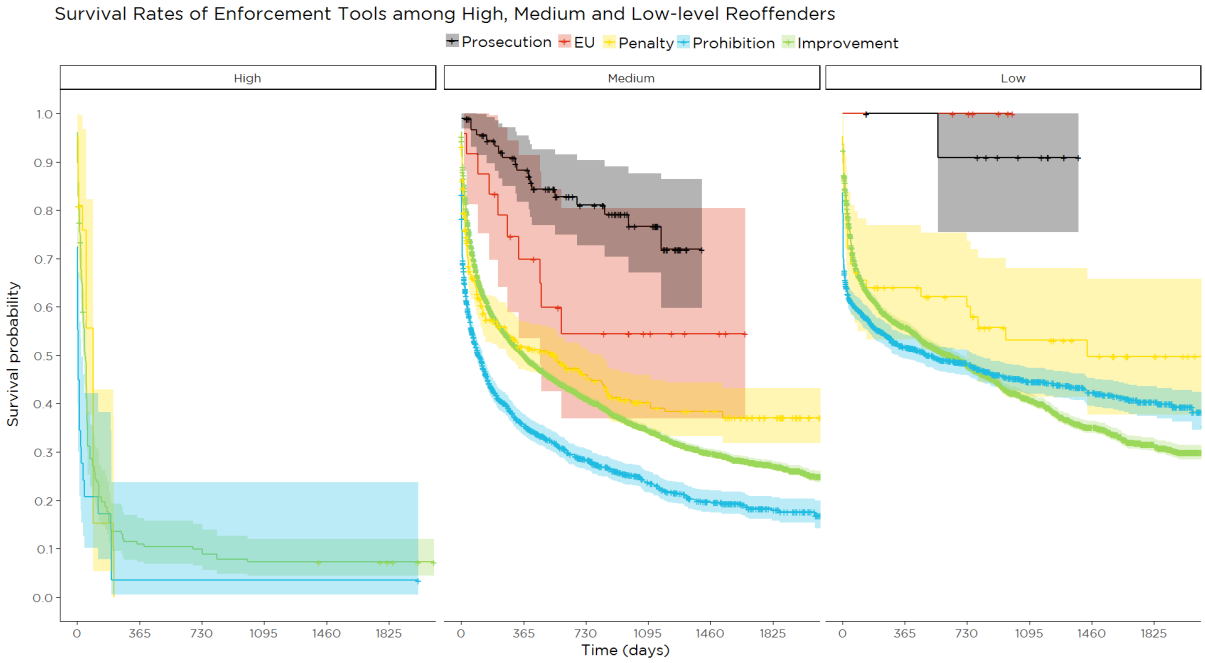

Figure 3: Initial analysis for low, medium and high-level offenders, predicting the probability of sustained compliance ("survival") over time (days) after a prosecution (black), enforceable undertaking (EU: red), penalty (yellow), prohibition (blue) or improvement notice (green) among businesses in NSW between 2012 and 2017. Category of compliance history; low (no prior offending), medium (1-9 enforcements per year) and high (10+ enforcements per year). Data for EUs was only available from 2013 and prosecutions from March 2014. Shaded areas represent 95% confidence intervals.

Differences among regulator teams

We also explored differences in the number of notices issued by different industry and geographical teams and found that some teams issue higher numbers than others. Teams also responded to the change in legislation in differing ways by either increasing or decreasing the issuing of penalty, prohibition and improvement notices (data not shown).

Majority of improvement notices since 2012 have been issued by the teams responsible for inspecting the construction industry and the metropolitan area, generalist, teams (~1000 notices per year). Prohibition notices for the same timeframe were primarily given by the teams inspecting the construction industry (~200 notices per year), but also the regional, generalist, teams (~60 notices per year). Penalty notices were primarily issued by the construction industry teams (~30 notices per year), but with both metropolitan and regional teams not far behind (~20 notices per year).

Discussion

The use of enforcement tools among jurisdictions

The NCEP currently guides the use of WHS enforcement tools in Australia and outlines an approach that is guided by the principles of responsive regulation and risk-based resource allocation. Responsive regulation posits that the most effective outcome is achieved when the regulatory response is tailored to the individual duty holder and acts upon intrinsic, closely held motivations to motivate compliant behaviours and reduce reoffending [22]. On the other hand, limited resources and external expectations necessitate risk-based prioritisation of resources such that the response matches the estimated level of risk at an individual and situational level [2, 25]. This approach allows targeting of resources based on the risk that duty holder activities pose and their ability to control those risks, leaving those that pose a lesser risk, and do the right thing by their workers, free of unwarranted regulatory scrutiny [35]. The effectiveness of the approach relies on the data and information available to inform decision making and targeting. Moreover, the regulator is required to decide the level of risk tolerance that is acceptable for non-targeted risks [14].

The NCEP [17] and its supporting event-triaging framework [37] help regulators assess the risks in the workplace, define the seriousness of the offence and decide the initial response. However, less

national guidance is available for assessing the criteria relating to risk of reoffending, capability to comply, duty-holder characteristics influencing the impact of the enforcement on encouragement and deterrence, as well as how to link these to the use of specific tools and intervention design. This combined with the general lack of high-quality data in the WHS field [25] often cause decision-making to be more qualitative than quantitative in nature [14]. While this allows flexibility in the regulatory response, dependence on the professional judgement of inspectors and senior officers considering broad criteria counters the NCEP's aim of consistency in assessment and application of enforcement tools.

As a result, the Australian WHS regulators have adapted the NCEP guidance in line with their own individual circumstances, pressures and available data [38]. Our literature review and engagement with WHS regulators identified that differences in the use of enforcement tools seem primarily related to differences in risk-based priorities; which offences and duty holders fit the definition of "most serious" and the propensity of the regulator to pursue these matters to court [17]. Where matters are not serious enough, or for other reasons does not warrant prosecution, responses vary between continued engagement and further remedial actions, to complementing engagement and remediation with penalty notices to reinforce the seriousness of continued non-compliance. The use of the latter may be increasing as several jurisdictions report they now use, or plan to start using, penalty notices. Furthermore, some are increasing penalty amounts and the number of offences for which penalty notices may be issued.

In the responsive regulation framework, prosecution belongs at the top of the enforcement pyramid (Figure 1 left; [22]). For serious incidents and fatalities, there is strong public interest in prosecution and in punishing dangerous duty holders to raise their awareness of the seriousness of their actions. Moreover, a prosecution fills the need for providing a message of general deterrence to the wider community, providing credibility to the regulator and feeding the perception that dangerous offenders will be caught and sufficiently sanctioned [62]. In instances where there is imminent or immediate risk of serious harm, a prohibition notice is often issued to stop the duty holder's operations until the risks have been controlled. If a duty holder is unresponsive and contravenes the prohibition by continuing work, matters are generally escalated to full investigation and possible prosecution.

For lower-level risks and where no-one has been seriously injured, there is often little public interest to pursue a prosecution and hold the duty holder to account for their actions. According to risk-based principles, it would be inefficient use of regulator resources to escalate these matters to prosecution. For minor offences, education and stronger administrational and remedial actions, such as improvement notices, are instead preferred according to responsive regulation principles. This encourages duty holders to comply and rectify issues within specified timeframes [17]. Again, if the duty holder does not rectify the identified issues on time and cannot give a reasonable excuse, matters require escalation. In many jurisdictions this is considered an offence warranting investigation and potential prosecution. However, prosecutions are costly and time-consuming and other jurisdictions prefer the cheaper and timelier alternative of using penalty notices, provided the use of a penalty notice is permitted for the offence.

Penalty notices are therefore generally not issued in the first instance but rather as a deterrent following continued non-compliance. Similarly, penalty notices are not issued for matters that may proceed to prosecution, as when the notice is issued the matters are expiated. The penalty notice therefore acts as the top sanction for less serious matters and fills the same function as prosecution; to make the duty holder realise the seriousness of its actions and to provide a message of deterrence to the wider community. General deterrence depends on how widespread the dissemination of the news of the penalty notice being issued is, why it was issued and to whom. While it is common to publicise the outcomes of a prosecution or an EU, it is less common for jurisdictions to publicise penalty notices.

Other uses for penalty notices that arose during our research were in instances where the findings from a full investigation are not sufficient for the commencement of a prosecution. In some jurisdictions these matters are dropped and there is no sanction for the serious incident that gave rise to the investigation. Depending on the reasons for the prosecution not going ahead, a penalty notice may be a suitable alternative sanction that appeases public expectation. Penalty notices have also been used as part of strategic programs to reinforce the seriousness of priority issues and to motivate action following awareness campaigns and support. Besides the size of the penalty, one of the main differences between penalty notices and prosecution is the time taken from detection to sanction. Where penalty notices may be issued on-the-spot, the court process often take years to complete. Officers at Safework NSW therefore reported that they saw a

penalty notice primarily as a deterrent with a focus on future non-compliance, whereas prosecutions and court penalties focus on punishing poor conduct in the past.

Enforceable undertakings are an alternative for duty holders who are more receptive to the persuasion approach; willing and capable to collaborate with the regulator on the development of an agreement that provides benefit above and beyond legislative requirements for their workplace, industry and community [17, 56]. Currently, the primary use of EUs is as an alternative for prosecutions for all matters other than Category 1 offences, that is, the most serious incidents caused by reckless conduct [67]. In some jurisdictions, EUs are also not considered in instances where the seriousness of the offence (e.g. a fatality) or the duty holder's motivation or attitudes are not appropriate. Moreover, if a duty holder contravenes the EU, the regulator may escalate to prosecution. The EU is therefore positioned below the prosecution in the regulatory pyramid but its focus on restorative justice may at times result in cost, effort and time that are higher than that of a prosecution for the same matter [75]. The comparison of costs to the duty holder is however difficult as both EUs and prosecutions carry significant "hidden costs" not directly related to the outcome. One of the main reasons duty holders consider EUs is to avoid prosecution and its unknown outcomes. The EU gives the duty holder a larger sense of fairness and control over the outcome, process and the interaction with the regulator [76].

Mechanisms and characteristics of the selected tools

The available literature on enforcement and effectiveness of sanctions in WHS is scarce, making it uncertain as to what extent enforcement interventions and specific tools in WHS are informed by evidence [13, 15]. Similarly, while the literature in other areas of law is more substantial, it may not be directly applicable to the use of enforcement tools in WHS. Substantial socio-legal, psychological and behavioural literature, however, supports the general use and mechanisms by which enforcement tools are effective. This suggests that a deeper understanding of the tools, their operational theory and the motivations they target could provide guidance on the data regulators need to collect and consider when designing interventions to more effectively encourage and deter specific duty holders and reduce their risk of reoffending [14, 62]. An example of a model that has been developed, refined and relied upon in the criminal justice system internationally over the past 30 years is the Risk-Need-Responsivity model. Its principles incorporate responsiveness and risk-based targeting while focusing on behaviour change and reducing risk of reoffending [23]. The model recommends consideration of factors that relate to the duty holders' responsivity and readiness to learn from the enforcement, the factors or needs that the enforcement should target to change behaviours and the incorporation of these factors into tools to help assess and link risk of reoffending to interventions with reliable accuracy [23]. While the NCEP recommends consideration of risk of reoffending, capability to comply, the impact of the enforcement on encouragement and deterrence, it provides little guidance as to how these assessments should be done.

The literature suggests that the theory underlying the effectiveness of enforcement tools is persuasion and deterrence [6] and that success in influencing behaviour therefore relies on the duty holders' perceptions of their regulatory obligations, the enforcement tools themselves and, ultimately, their own compliance [27]. Perceptions vary due to individual differences in motivation, characteristics, decision-implementation resources as well as pressures from external agents, environments and events [27]. To be most effective, regulators have therefore been recommended to consider the full spectrum of factors and forces that impact regulatory regimes [2, 14] and the interplay that may occur among these factors when designing interventions [17, 27]. This includes the motivations, attitude and culture of the duty holder to determine the likely responsiveness of the duty holder to the intervention [14].

Motivations can be broadly classified as economical, legal, social and normative [31, 40]. When a duty holder is driven by positive and pro-social motivations, education is a cost-effective tool to be considered and is preferred by the responsive regulation approach [22]. It teaches the duty holder the economic value of proactive WHS management, justifies the regulations and authority of the regulator, and raises the awareness of the expectations of the community on the duty holder to do the right thing. When adapted to the duty holder, education alone can therefore be an effective tool to build desire, knowledge and capability to comply [24]. In contrast, when the duty holder is unaware of its non-compliant behaviour, has a poor attitude or is driven by negative and pro-criminal motivations, it may be safer and more resource-efficient to use sanctions and target motivations not only via encouragement but also via deterrence. Examples include situations where non-compliance is profitable (economical), the rules and the regulator

are dismissed as unfair or unimportant (legal), the industry has a poor WHS culture (social), the duty holder is isolated from compliant others (normative), or the regulated activity carries great actual or potential harm (high-risk; [3]).

Prosecutions and penalty notices both act directly on economic motivations by detracting value from the non-compliant behaviour [6]. The perceived likelihood of getting caught and being given a sizeable sanction [5, 6, 9] also influences legal motivations; that the law is seen as fairly applied in the industry, internalising the duty to be compliant [31, 40]. The EU primarily targets legal motivations as the duty holder co-develops and commits to a fair and legally binding contract [75]. Moreover, the long timeframe and close collaboration with the regulator during the EU helps the duty holder to learn, internalise and maintain compliant behaviours. The general deterrence of the threat of prosecutions on economic and social motivations also encourages duty holders to consider EUs as a way to gain more control over the outcomes and to maintain a clean WHS record [76]. Enforceable undertakings therefore target social and normative motivations to repair reputational damage and helps the business be seen as one who is restoring justice and giving back to the community, the industry and its workers.

The four motivations and whether they are pro-social or pro-criminal differs among duty holders depending on their individual perceptions [27]. To some extent, the literature suggests that perceptions and responsiveness to enforcement vary among subgroups in a predictable way such that risk-factors and needs can be identified and targeted by tailored interventions. For example, as listed in the NCEP, compliance history is considered one of the central predictors of reoffending [47] with first-offenders often more impressionable to enforcement than serial-offenders [44, 58]. Business size is another key factor [27]. Small businesses tend to have less resources and ability to absorb the cost of sanctions, thereby experiencing a proportionally larger impact than a larger business would [51-55]. For the same reasons, larger businesses tend to be more concerned with social impacts on reputation and competition [29, 30, 57]. Moreover, decision-makers in larger businesses tend to be further removed from local WHS issues and the affected workers, therefore often feeling less personal responsibility and legal duty [51]. Organisational structure is therefore another factor that may be considered [14, 40, 43] with upper-management commitment to WHS being a key factor in many WHS performance assessment tools [59]. Another major influencing factor is industry affiliation as the social and normative pressures on being compliant depend strongly on the WHS culture of the duty holder's industry and the risk perceptions they hold of their work environment [14, 44, 60]. The values of an offender's companions and relationships are also considered one of the central predictors of reoffending in the criminal justice field [47].

While limited, the data from NSW analysed as part of the current study support the importance of these influencing factors. The participating regulators highlighted the difficulty of securing compliance with recalcitrant serial-offenders, reaching distant directors and designing sanctions that are sufficient to induce action in large corporations. The NSW businesses similarly argued that the perceived importance of WHS vary among industries and therefore require different levels of enforcement. Since the tools form part of an overall approach, NSW businesses found it difficult to delineate when each tool should be used. Instead they emphasised the need for fairness, referring to proportionality with compliance history, attitude and efforts taken by the duty holder.

Effectiveness

The NSW businesses reported evidence of direct deterrence and motivation to change through requests for easier access to information on how to comply. Some reported acts of self-audit and long-term changes made to systems and practices. If analysed in line with the transtheoretical model and its five stages of behaviour change [50], this suggests that experience of enforcement may successfully motivate businesses past the precontemplation stage. Their request for easier access to information suggest that these businesses have accepted their non-compliant behaviours as a problem, which is the first step to change [50]. These businesses are therefore in the contemplation or preparation phase and either seeking motivation to make a commitment to change or seeking more detailed information on how to proceed. Those who reported having made changes to systems and practices and conducted self-audits are further along and are already taking action or seeking ways to maintain the changes they have already made [50]. Tailored education and support to the specific stage of change following the use of the selected enforcement tools could fill their remaining needs and further motivate behaviour change and maintenance of compliant behaviour.

Indications of general deterrence were also identified where NSW businesses reported that enforcement experiences were often known about within their industries and networks, primarily shared informally by employees, sub-contractors and suppliers to affected companies. They reported that this generated opportunities to discuss and better inform themselves about WHS, alerting them to changes they were unaware of, relevant regulator activities, and potential new hazards to check for in their own operations. This also highlights that businesses are often more responsive to information from those in similar circumstances than directly from the regulator.

When regulators were asked about effectiveness, they all reported they perceived their approach as effective, referring to falling rates of incidents, fatalities and insurance claims. This was independent of whether they considered their approach more or less punitive than that of others. The gaps and difficulties identified in the current approach included:

1. How to secure compliance with recalcitrant serial-offenders
2. How to reach distant directors
3. How to design sanctions that are sufficient to induce action in larger corporations
4. How to manage large interstate businesses
5. How to manage intrastate inconsistency in approaches among regulators across areas of law
6. How to manage stakeholder opinions versus evidence of effective use of enforcement tools
7. How to use publicity responsibly
8. How to reliably measure tool effectiveness and ability to evaluate

The first three are relevant to the findings of the current report and may be addressed by better designed interventions that more precisely target motivations that influence positive WHS attitudes. Number 4 and 5 relate to cross-jurisdiction collaboration difficulties, whereas number 6 relates to known difficulties in balancing risk-based prioritisation and external expectations [14]. Number 7 recognises that publicity of enforcement and WHS matters may provide opportunities to target social and normative motivations to comply. The impact of publicity is perceived by the regulators to lie in the unknown impacts on reputation and competition, which will vary from duty holder to duty holder. For regulators, publicity provides a means to demonstrate transparency and accountability. However, the unknown consequences may compromise proportionality between the offence and the consequence.

Analysis of quantitative data from NSW demonstrated significantly different rates of reoffending following each of the selected tools, particularly for medium-level offenders (1-9 enforcements per year; Figure 3). Prosecution had the lowest level of reoffending, followed by duty holders with an EU or penalty notice, and those with improvement notices. Those with prohibition notices consistently had the highest level of reoffending. Compared to the overall analysis (not considering compliance history; *Figure 2*), medium-level offenders had higher likelihood of reoffending whereas first-offenders had lower levels of reoffending. This is consistent with findings elsewhere, including in criminal justice where compliance history is one of the central predictors of reoffending [47]. The analysis also found that, regardless of the first enforcement type, reoffending primarily led to the issue of an improvement notice. While this may be an artefact of our definition of reoffending and inability to differentiate continued enforcement of the same matter from new reoffending or the increased attention a business may receive following enforcement, it may also suggest that when reoffending occurs it is primarily minor in nature. Moreover, while the fact that very few or no prosecutions and EUs have occurred to high-level offenders may reflect that very large and high-risk business receive higher attention from the regulator resulting in high numbers of improvement and other notices rather than high-level tools, it could also indicate that these tools effectively prevent severe offending (Figure 3).

While our analyses contain limitations, the survival analysis technique demonstrates a method that regulators may use to evaluate the effectiveness of their current application of enforcement tools as well as for identification of risk factors that correlate with reoffending. These can then be considered as part of decision making and may be incorporated in quantitative assessment tools to predict risk of reoffending. Here, we demonstrate that compliance history is an important factor in NSW. Similar analyses could be completed with consideration to the other factors identified in the current report, such as business size and industry, if quality data is accessible. Data on commitment by upper management and other leading indicators are more difficult to collect but as technology and systems develop, these may become more readily available in the future. Similarly, triangulation of data from numerous sources may provide ways to overcome issues such as when businesses go into liquidation and “pheonix” as a new business with a clean criminal record. This issue may have artificially decreased our estimated reoffending rates. Further

research is needed to identify reoffending correlates as well as ways to account for varying level of risk in the industry or business, likelihood of detection and level of attention from the regulator, as well as inconsistencies in use and availability of tools over the time frame of the analysis as a result of legislative and policy changes and legacy effects (2012-2017; Table 3).

Conclusions and recommendations

With regards to the limitations of this study, the current approach to WHS in Australia and NSW effectively reduces reoffending by targeting closely-held, positive motivations of duty holders. This is preferably done via education and support. However, the use of sanctions allows a means to more strongly target motivations in a resource-efficient way when the risk or actual harm is high or the duty holder is driven by pro-criminal motivations.

To use enforcement tools more effectively, regulators could expand the current decision-making frameworks to include guidance on assessment of factors relating to attitude, responsiveness and risk of reoffending. For example, regulators could design interventions that combine tools and activities to target the four broad motivations from different angles. Examples that emerged as part of the current study included using a business' WHS enforcement record as a performance indicator in the tendering process for government-related work and using penalty notices to reinforce the importance to act following awareness campaigns on priority issues.

Regulators could also consider specific risk factors, in addition to compliance history, to help link workplace risk, attitude and motivation to specific tools. Example factors to consider include business size; the priority and personal sense of duty decision-makers place on WHS, and the ability to absorb the cost of the sanction, if given. Moreover, industries may require differently designed interventions based on their differing WHS culture and level of risk.

Regulators could also consider the general responsiveness of the duty holders to determine the focus of the intervention - whether it is to convince that non-compliant behaviour is a problem, to motivate knowledge and capacity building, to motivate commitment and action, or to motivate maintenance of compliant behaviour.

Including these considerations as criteria in the NCEP would result in a more comprehensive framework for decision making and the use of enforcement tools. As quality data becomes more accessible, including these factors as part of an actuarial tool will provide more accurate, consistent and reliable assessment of duty holder circumstances and risk of reoffending. This could lead to better designed and implemented enforcement interventions that are appropriate and effective in reducing offending, securing the health and safety of workers and workplaces in Australia.

The author recommend that:

1. The NCEP could be updated to include the consideration of economical, legal, social and normative motivations such that regulators design interventions that consider multiple or all four motivations.

2. In addition to compliance history, the NCEP could also recommend regulators consider general and specific responsiveness factors to ensure interventions effectively target motivations and reduce reoffending behaviours. Examples include: business size, organisational structure and industry affiliation.

3. Further research could be undertaken to identify more risk factors and explore data sources and the potential of an assessment tool to assist prediction of reoffending and impacts on encouragement and deterrence.

Furthermore, our literature review also identified the following specific aspects in relation to the effectiveness of the selected tools and therefore require further attention:

Prosecutions
- Venue:Industrial vs. District Court, and the application of sentencing guidelines.
- Willingness to prosecute: The preference for support vs. deterrence among jurisdictions and inspectors.
- Purpose: Balancing punishment and deterrence.
- "Phoenixing": A way to escape prosecution by re-establishing the business in another form.
- Role of the victim: The use of victim impact statements.
- Non-monetary sanctions: Follow the example of EUs and increase the use of restorative justice in sentencing.

Enforceable undertakings
- Perception of fairness: Perception as a viable alternative for the PCBU: fair procedure, outcome, interaction.
- Cost: Control over outcomes in exchange for potentially higher cost, effort and time.
- Content: Balancing consistency with creativity and innovation.
- Accountability: Accountability and flexibility in decision-making and monitoring by PCBUs and regulator.
- Timing: When and how the duty holder learns about the alternative of an EU.
- Third party voices: Sourcing and incorporating the views of relevant third parties in the EU process.

Penalty notices
- Amounts: The size of the penalty and proportionality to the business and the situation.
- Offences: Appropriate offences for the use of penalty notices.
- Insurance: Possibility to tax-deduct or take out insurance to cover the costs of financial penalties.
- Delivery: Sending the right message to encourage sustained behaviour change.

Limitations

This report provides a brief review of the most relevant available literature. The perceptions and opinions of businesses and regulator officers were based on convenience sampling of a small number of key informants, primarily from NSW. Since a very small proportion of enforcements in NSW are directed towards workers, we did not seek the perceptions and opinions of workers, unions or worker associations. Furthermore, due to the nature of many significant changes to legislation and policy in the WHS space in NSW and Australia, and the short time since the most recent changes, the quantitative data and literature available for analyses contains inconsistencies and limitations. The survival analysis, exploring likelihood of reoffending, should also be considered as initial analyses only and as a demonstration of a method that may be used to evaluate the impact of influential factors on the reoffending rates of enforcement interventions. Deeper literature review, further analysis, refinement of analyses and additional data collection are required to fully understand the mechanisms by which enforcement tools are effective, their impact duty holder behaviours and how to link duty holder characteristics and risk to specific enforcement tools.

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Appendix A: Interview plan for SafeWork NSW Officers

This interview plan is indicative of the relevant subject matter to be covered. It is designed to allow freedom of any additional relevant topics that may arise during the interview. The interviewer may not need to ask the potential questions – they are a discussion aid only. The discussion should flow and some topics will arise without being asked directly by the interviewer. The interviewer will introduce a theme if it has not arisen during the discussion. The potential questions are simply suggestions of how to get the conversation started and reflect the kind of information the investigators are interested in.

Procedure

Interview participants: n=15
Maximum interview duration: 60 minutes

1. Introduce self

My name is [Name], from the Centre for Work Health and Safety.

2. Purpose

To explore when each enforcement tool should be used to be most effective and which factors should be considered as part of the decision-making.

SafeWork NSW has many policies and frameworks that guides the use of the tools but people have different interpretations and judgements when making decisions (e.g. researcher vs. manager vs. inspector). We want to tap into the reasoning and evidence that lies behind using the

policies and frameworks to identify opportunities to improve the overall approach and inform a potential new, national decision-making framework.

This first phase of the project will focus on the use of penalty notices, prosecutions and enforceable undertakings to provide evidence for an end-of-June submission to the National Review of the model WHS legislation, which is currently underway.

3. Information sheet, informed consent:
Before we begin, I want to go through the Information sheet. It includes a brief description of the project, we will chat for approx. 60 min. This is an unstructured interview, not a specific set of questions. Talk about the things you think are important and do not feel pressured to discuss anything you do not want to talk about. You can withdraw from the study at any time. What you say is entirely confidential and you will be referred to as one of our informants in the final report. Please ask me to explain if there is anything you do not understand. There are no right and wrong answers.

4. Recording
I would like to record our conversation. Is that OK? (YES/NO).

5. Any questions before we begin?

6. Introduction
The reason we approached you is because of your experience and expertise in penalty notices/ prosecutions/ enforceable undertakings. Can you explain a bit about your role and your experience with using these tools?

Theme 1: The process: how, when and to whom are the tools implemented?

- Prosecutions
  - Please describe the specific policies/frameworks that guide the use of prosecutions
  - What is the process leading up to a decision to prosecute?
    - What are the key considerations and decision points? Why?
  - What happens during the prosecution?
  - What happens after the prosecution has occurred?

- Enforceable Undertakings
  - Please describe the specific policies/frameworks that guide the use of enforceable undertakings
  - What is the process leading to an EU?
    - What are the key considerations and decision points? Why?
  - What happens during the development of an EU?
  - What happens after the EU is finalised?

- Penalty notices
  - Please describe the specific policies/frameworks that guide the use of penalty notices
  - What is the process leading to a penalty notice?
    - What are the key considerations and decision points? Why?
  - What happens when the notice is delivered?
  - What happens after the penalty is delivered?

- Are the policies/ frameworks applied consistently?
- How do duty-holders respond? How is the relationship with the regulator affected?

Theme 2: Effectiveness: are the tools delivering the desired outcomes?

- How effective do you think the approach is?
- How do you ensure the approach is effective? What measures are used?

- Prosecutions
  - What makes a good/bad prosecution outcome?

- What do you think could make prosecutions more effective?

- Enforceable Undertakings
  - What makes a good/bad EU outcome?
  - What do you think could make EUs more effective?

- Penalty notices
  - What makes a good/bad penalty notice?
  - What do you think could make penalty notices more effective?
- Have you made/ are you planning to make changes to your policies, frameworks or approach in relation to the use of enforcement tools? If so, why and what are these changes?

Theme 3: Decision-making framework: Do we need one? What could it look like?

7. What do you think about the NECP?
8. What do you think SafeWork NSW's policies/frameworks?
9. Is it easy to make the right decision?
10. How does SafeWork NSW ensure a consistent approach? What measures are used?
11. Does SafeWork NSW communicate the enforcement approach to PCBUs so they know what the consequences are? Does that affect effectiveness?
12. How could SafeWork NSW increase effectiveness, consistency and transparency in its use of enforcement tools?

7. Conclusion

That was everything that I wanted to cover. But, before we finish this interview, is there anything else that you would like to add to what we have discussed today? [Thank you and close]

Appendix B: Interview plan for NSW businesses

Developed by JWS Research for J00720 Centre for Work Health and Safety NSW

Stakeholder Depth Interview Guide

June 2018

Interview Participants: n=12

Maximum interview length: 30 minutes

Name(s) / Title(s):			
Date:	/ June 2018	Start / Finish	/
Interviewer:			

INTRODUCTION	

Hello, my name is [ ], calling from JWS RESEARCH. Thank you for agreeing to participate in this interview. CONFIRM GOOD TIME TO TALK / REVISE APPOINTMENT

In this research, we are speaking to a range of NSW businesses about work health and safety issues, including opinions and experiences around enforcement of work health and safety laws.

This research is being conducted on behalf of the NSW Government's Centre for Work Health and Safety.

I want to stress that your participation is voluntary and your comments will remain completely confidential. We will not attribute any comments to specific businesses, and you can decline to answer a question, should you wish to. There are strict privacy and confidentiality rules in place through law and under our industry code for professional behaviour so, on this basis, we hope you feel free to be completely frank and open in your views.

We also ask that the information discussed in this session is considered private and confidential and should not be discussed with anyone at any time following this session.

The interview will take up to 30 minutes depending on your responses.

Do you mind if I record this interview? YES / NO

For the record, could I please get you to state your name and tell me a little bit about the company you work for, including your role, the type of business it is, the number of employees?

MAIN INTERVIEW	

Q1

To start, could you tell me what you know/understand about the role of SafeWork NSW – what it does, how and why?

Probe on: e.g. holding businesses accountable, acting on behalf of the community and families of workers, imposing deterrence to aid prevention, etc.

And what is your overall view of SafeWork NSW? Why?

Q2

Do you think work health and safety laws - and the consequences of breaking them - are generally easy or difficult for NSW businesses to understand? For individual staff members to understand?

Why?

Probe on: How does knowledge of the consequences affect how work/business operations are undertaken in relation to the work health and safety practices and culture in your business? In your industry?

Q3

Could you tell me briefly what type of contact you / your business has had with SafeWork NSW?

Probe on: interactions not related to enforcement – type, when, reason.

Probe on: enforcement interactions - type (penalty notices, prosecutions, enforceable undertakings), when, how many, incidents related to?

Q4

Have you heard about other businesses, in your industry or others, that have experienced some type of enforcement from SafeWork NSW? Is that something people share - why/why not?

Probe on specific examples:
How you heard about it? Why did they share?
Enforcement type (penalty notices, prosecutions, enforceable undertakings), incident related to, suitable/appropriate response in your view?

Impact on your business WHS practices, culture - what changed/not changed, why?

Q5

Thinking about the enforcement your business experienced, did you/your colleagues/your organisation share the story of that experience with others, e.g. industry colleagues, family or friends? Why/why not?

Probe on:
Feedback received - e.g. agree a suitable/appropriate response? Alternative responses?
Impact on their business WHS practices, culture - what changed/not changed, why?
How you heard about their changes? Why did they share?

Q6

At the time, did your business view that enforcement from SafeWork NSW as a suitable/ appropriate response to the incident? Why/why not?

What would have been a more suitable response?

Probe on: examples/types of situations SafeWork NSW should impose a penalty notice/on-the-spot fine versus a prosecution versus an enforceable undertaking.

Q7

As a result of the enforcement, what changes, if any, did you/your business make to your work health and safety practices, work health and safety culture or otherwise?

Q8

Thinking about the business you work in, but also more broadly about your industry and others…

What could SafeWork NSW do differently to ensure its messages around work health and safety are spread – that they reach businesses and workers, that they are understood and taken on board?

What could they do differently to encourage businesses to change/improve their work health and safety practices/work health and safety culture?

Probe on: what would encourage your business specifically to make change to work practices?

Probe on: the use of enforcement tools vs. interactions other than enforcement. Preferred type of engagement/relationship between business and regulator.

CONCLUSION	

Q9
That's all I have to ask you today. Before we finish, is there anything else that you'd like to add to what we have discussed today?

[THANK AND CLOSE]

Appendix C: Survey questions for Australian WHS jurisdictions

1. Please describe the process you follow, from detection to enforcement, in your jurisdiction.
2. Please describe the policies/frameworks that guide the use of enforcement tools, particularly those regarding:
    a. Improvement and prohibition notices

   b. Penalty notices/Infringement notices/on-the-spot fines
   c. Prosecutions
   d. Enforceable undertakings
3. What are the key considerations and decision points guiding the use of each enforcement tool? Why are these important?

4. How consistently are the considerations applied?

5. How effective is the enforcement approach?

6. How is the duty-holder relationship maintained during and after enforcement? Does this influence the effectiveness of the tool?

7. Have any changes been made/ are there any planned changes to the enforcement policies, frameworks or approach in your jurisdiction? If so, why and what are these changes?

8. How does the approach in your jurisdiction compare to the national model and the approach of other WHS jurisdictions?

9. What changes could be made at a national level to make the use of enforcement tools more effective; in your jurisdiction and nationally?