



Sound foundations

Managing safety rules and procedures

Summary report 2012

IOSH, the Chartered body for safety and health professionals, is committed to evidence-based practice in workplace safety and health. We maintain a Research for Public Benefit Fund to support research and inspire innovation as part of our work as a thought leader in safety and health.

All recipients of funding from our Research for Public Benefit Fund are asked to compile a comprehensive research report of their findings, which is subject to peer review.

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In this document, you'll find a summary of the independent study we commissioned from HASTAM, with support from the University of Ballarat, on the 'Management of safety rules and procedures'.



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What's the problem?

Rules and procedures feature prominently in health and safety, but don't receive the thought and care needed to make the most of their contribution to risk control. This leads some organisations to regard risk control as nothing more than complying with rules thought up by experts and managers. They see the need for obeying rules as a foregone conclusion, leading them to impose rules without much thought.

Organisations treat deviations from rules as violations and apportion blame accordingly. And when accidents occur, new rules are developed or existing rules are fine-tuned. The result is ever larger rule sets and procedure manuals that become too unwieldy for anyone to comprehend or use. This may be one reason for the negative perception some people have of health and safety.

We commissioned Professor Andrew Hale, with the assistance of Dr David Borys and Professor Dennis Else, to examine these issues.

The objectives of the research were to:

- carry out a literature review to gather information on good safety rule management
- produce guidelines on what constitutes good practice
- develop an intervention plan that safety practitioners could use to improve their own management of safety rules.

What did our researchers do?

The research team carried out a literature search on the basis of 27 key words, in all relevant combinations, and tapped into 25 databases. This revealed an initial trawl of 301 relevant papers in the period since 1986. After reading the abstracts, the team reduced the number to 180.

The team produced a scientific review of the literature to present what can be concluded from experience-based and theoretical studies of rule-making and rule management from the diverse literature of safety science and related psychological, sociological and organisational fields. The literature review provided the theoretical 'state of the art' on rule use and management. The research team distilled this into a framework, consisting of nine steps, showing the generic process of rule management.

The team presented preliminary results to researchers at conferences, and at a workshop of senior safety practitioners, whose comments and suggestions were incorporated in all sections of the final report. Based on these discussions, the team developed guidelines for use by safety practitioners. These outline good practice in each step, as a stimulus for reviewing an organisation's rule management. The team

also developed a brief intervention plan to help safety practitioners and consultants review and benchmark rule management systems. The intervention plan is included at the end of this document.

What did our researchers find out?

The study of the literature revealed two contrasting paradigms of rules: 'model 1' and 'model 2'.

Model 1 is the classic, rationalist view of rules as constraints imposed on the behaviour of those at the sharp end of operations by experts situated higher up the hierarchy and removed from the day-to-day work. Following rules is seen as the best way of behaving in all situations. Rules act as constraints on the errors and mistakes of fallible operators. This is a top-down view of a static set of rules that has little or no tolerance of rule violations.

The literature researching this paradigm comes largely from technical safety science and psychology. Most of the literature in this paradigm is concerned with studying the prevalence of, and reasons for, violations. The literature provides clear evidence that this paradigm can work, as proven for a range of simple and easily observed behaviour by the success of behavioural monitoring programmes.

Model 2 emerges from sociological and fieldwork studies, and from management science. Studies in this paradigm look mainly at complex, high-technology operations, particularly in the work of professionals such as pilots, fire-fighters, doctors and other medical staff, and maintenance fitters. It sees rules as socially constructed patterns of behaviour, deriving from experience with the diversity and unpredictability of reality, and knowledge that is largely tacit. Rules are local, situated and have many exceptions and nuances. The experts in this paradigm are the operators, and this view is essentially bottom-up and dynamic.

This model sees written rules as simplified abstractions of reality, to be used as generic guidance but to be adapted to each different situation in real life. The 'expert operators' characteristically see imposed external rules as unwarranted limitations on their freedom of choice and dismissive of their competence. To these frontline experts, rule violation is inevitable, and they value knowing when and how to violate the rules as a badge of mastery of the activity.

The literature demonstrates the gap between work as envisaged by the rule-makers (designers, managers, subject experts) and work as experienced by those on the frontline through their tacit knowledge. It also shows that, if this knowledge stays tacit, it's difficult to manage and may blind the organisation to unconscious corner-cutting, which can lead to disastrous results.

Rule management framework

The research team attempted to reconcile the two paradigms and draw the strengths from both. They produced a framework of nine steps (Figure 1), which are generic and can encompass both models 1 and 2. In terms of strengths, model 1 includes an explicit process of developing, managing and using rules that is open to audit. The model also identifies, in a very small number of cases, the need for strictly imposed 'golden rules' that should never be violated. One of the main strengths of model 2 is that rule users participate in making, monitoring and modifying rules.

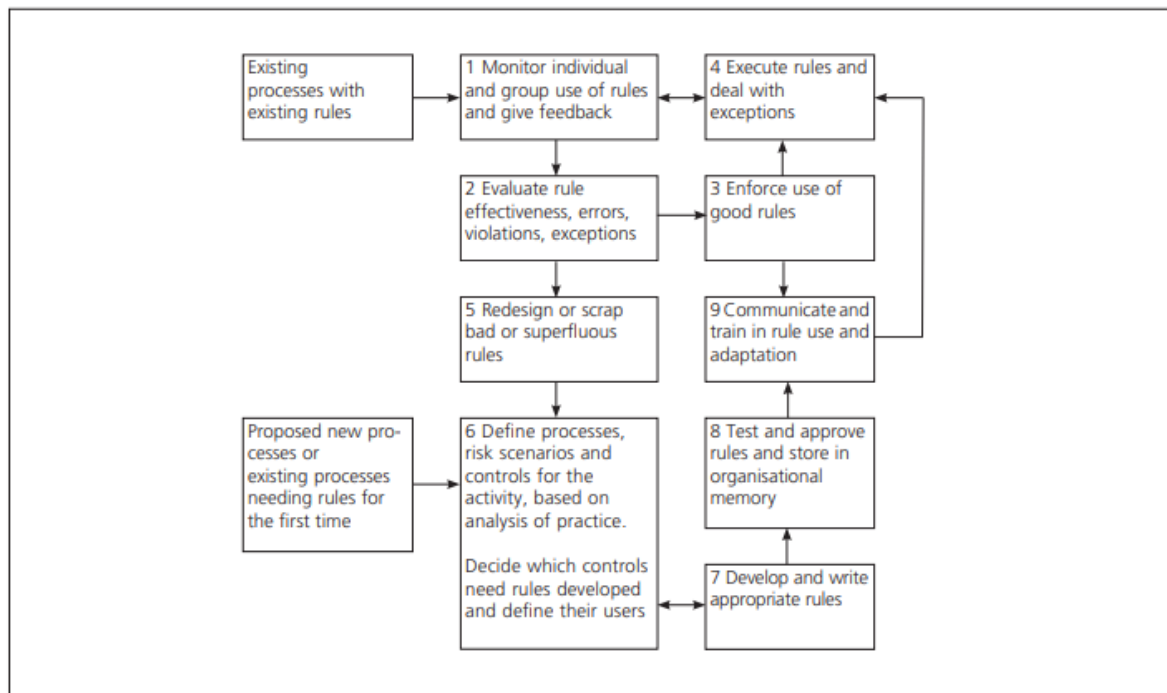


Figure 1
Framework for rule management

The framework proposes to place explicit rule design, monitoring and adaptation central as an interactive dialogue between the frontline workers – regardless of their level of competence – and the management hierarchy. This guarantees that tacit knowledge is made explicit and can be scrutinised and kept up to date. This emphasises the dynamics of rule use and management, and fits with the concept of a safe envelope of operations within which an operator navigates with the help of competence, rules and safety barriers.

There's also a need to decide which level of rules to use in which places to match the circumstances and capabilities of the rule users. This will depend on the competence of the rule user to translate generic goal or process rules to their own circumstances, and where this is not the case to support them with externally devised action rules.

It's important to consider from the start whether rules and procedures are the most effective risk control measure.

Guidelines and intervention plan

Based on the findings from the literature review and workshops, the research team produced guidelines for each step of the framework, emphasising that this will be dependent on matching the need for, and types of, rule to the characteristics of the rule users, the particular workplace situations, and the risks to be managed. More information about the guidelines is contained elsewhere.¹

What does the research mean?

The research is the first comprehensive review of the literature for at least 25 years. The results provide a clear framework to benchmark rule management in organisations and to understand the options open for the development, formulation and use of rules. It gives safety practitioners cause to think deeply about the role of rules in their safety management systems and to get away from the stereotyped, bureaucratic picture of many safety manuals and rule books. It emphasises the need to consult and involve rule users in deciding which rules to make and how to deal with violations and adaptations to unexpected situations. It will also help to counteract the negative perception of safety rules, resulting in a more mature view of them as guidance and the repository of the collective wisdom of the organisation and its staff.

The same principles developed here for managing workplace rules can be applied to regulation at the organisation level.² This work can help to illuminate and develop the debates about over-regulation that are prevalent in many countries.

Don't forget

The empirical literature on rule management and use in health and safety is quite underdeveloped. Such research has been hampered by the lack of clear frameworks and the assumption that safety rules are such an obvious tool of safety that they do not require study. The conclusions are therefore based on insufficient evidence to make them definitive. In particular, we need to know much more about which types and levels of rule fit with which sort of activities, circumstances and types of rule user. There is much empirical study still to be carried out.

¹ Hale A R, Borys D and Else D. Building sound foundations: notes of guidance on managing safety rules and procedures. Wigston: IOSH, 2012. www.iosh.co.uk/rulesandprocedures.

² Hale A R, Borys D and Adams M. Regulatory overload: a behavioral analysis of regulatory compliance. Working paper no. 11-47. Arlington, Virginia: Mercatus Center, George Mason University, 2011.

Good practice in action: improving the management of safety rules

The following intervention plan outlines, in general terms, the steps an organisation could take to review and revise its approach to the management of safety rules, with the goal of reducing the number and complexity of rules. Underpinning the plan is a good practice approach to the management of safety rules, including a set of principles for continually challenging and revising the need for, and quality of, safety rules.

There are five steps along the road to good practice in the management of safety rules, as shown in Figure 2.

Step 1: Establish a need and identify a champion

Define what the objectives of the intervention are. Are there problems with current safety rules and their use? If so, what are they? Are the rules regularly bent or violated? Have the rules been reviewed and updated in the past few years?

Senior management should identify a manager to champion the process of improving the management of safety rules. This action will underpin your organisation's commitment to health and safety and may have a positive impact on safety culture.

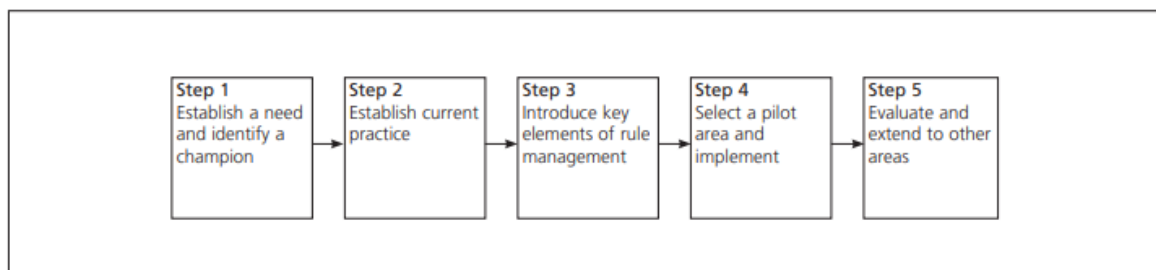


Figure 2
A five-step intervention plan for the management of safety rules

Step 2: Establish current practice

To improve organisational learning, it's important to find out if any gaps have developed between the current rules and practice. To make any gaps visible:

- use the framework for rule management as a template to review how your current safety rules have been developed and are being kept up to date. Does your organisation's current approach to the management of safety rules reflect the good practice summarised in the framework for rule management?
- find out what workers, supervisors and managers think about current safety rules, which ones they think aren't realistic, and why

- talk to frontline staff about how they carry out their work on an everyday basis and how they cope with what they regard as exceptions to rules or situations where rules don't apply
- review accident and incident records for examples of rule violation
- identify gaps and the reasons for them.

Identifying gaps provides the basis for planning the next steps and targeting those aspects of rule management that are causing problems and need changing.

Step 3: Introduce key elements of rule management

Introduce the key elements of the rule management process through a programme of structured awareness sessions for workers, supervisors and managers. These sessions should provide an overview of the principles of rule management and the rule management framework. They should also stress the importance of workers' participation in reviewing, revising and discarding safety rules based on their knowledge and experience of everyday work. In some organisations, it will be important to get union representatives on board. The role played by supervisors in some organisations will change from a telling and directing style to a participating and supporting one.

Step 4: Select a pilot area and implement

Choose one area of the organisation to pilot the programme. This will allow you to evaluate the programme's effectiveness before extending it to other areas. There are a number of ways to identify a pilot area. For example, accident records, a history of rule violations or enthusiasm for participating in the process. Once a pilot area has been identified, set up a working group consisting of supervisors and workers to challenge the existing safety rules and identify rules that could be deleted or changed. This needs to be supported by safety expertise and writing skills. The principles of rule management and the framework for managing safety rules should inform this process.

The outcome of this step will be an agreed set of revised safety rules and method for dealing with exceptions. Once agreed, workers need to be trained, and the new rule set put into practice. Supervisors also need to be trained in their new roles.

Step 5: Evaluate and extend to other areas

To evaluate the effectiveness of changes to the rule set, you need to evaluate it at regular intervals. In the first six weeks or so, talk to workers every two weeks about their perceptions of the new rules and the relevance of the rules to their everyday work. A medium-term evaluation should occur monthly as part of your existing consultation and communication processes, including safety committee meetings and toolbox talks. Feedback must be recorded systematically, and the rule set revised to reflect feedback. Once workers judge that the rules are effective in practice, you can

extend the programme process, including learning from the pilot process, to other areas of your organisation.

Our summary gives you the major findings of the independent project report by HASTAM and the University of Ballarat. If you want to read about the study in more depth, you can download the full report at [iosh.com/research](https://www.iosh.com/research).

IOSH is the Chartered body for health and safety professionals. With over 50,000 members in more than 130 countries, we're the world's largest professional health and safety organisation.

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