

How to Reduce Workplace Accidents

Summary of an Agency Report

Prevention of workplace accidents remains a key issue, reflected in the fact that it is the theme for the European Week for Safety and Health at Work 2001. To support this initiative, a study was carried out of accident prevention programmes in the member states of the European Union. The 22 cases analysed in the report cover interventions at both a national and regional level and at a sector and enterprise level.



Quantitative assessment of the cases

The report demonstrates that accident prevention programmes can have a substantial positive impact, for example through lower frequency and severity rates of work accidents, plus improved cost-benefit ratios, amongst other benefits. Although the types and levels of the interventions vary substantially in the cases studied, one important insight is that direct contact with the target groups can play a major part in reducing accidents and their impacts. The report also highlights the importance of monitoring systems, preventing risks at source, and the advantages of social dialogue, partnership and workers' involvement.

Here we provide a snapshot of the quantitative evidence from the study that supports these conclusions.

Lower accident frequency rates

- **The importance of awareness campaigns:** A national awareness campaign in Austria to prevent falls at work, using advertising and PR reduced falls by almost 10%. Interventions by public authorities such as the UK's Health and Safety Executive in the 'Recipe for Safety' campaign in the food and drink industry, designed to increase general safety awareness, led to a decrease of about 13%. A campaign in Alsace-Moselle on scaffolding safety, meanwhile, reduced accident rates by almost 10%.
- **Interventions at a national or regional level, including direct contact with companies, tend to be particularly effective.** Programa Aragón, for example, shows that action by regional inspectorates can help reduce accident rates by more than 25% in 'high-risk companies'. Other regional Spanish inspectorates have

had similar experiences. Focus can be a key factor. In the 'Recipe for Safety' campaign by the Health and Safety Executive a 33% reduction was achieved by concentrating on 19 companies or 'black spots' with injury incidence rates that were more than three times the average for the food and drink industry.

- **Programmes initiated by industry bodies also generally have a high positive impact.** An intense German campaign on falling from heights in the construction industry, aimed at all stakeholders and supported by new accident prevention regulations, cut the incidence of these falls by about 30%. Another German campaign, organised by the security industry, saw a 37% drop in accidents in the companies involved. In Denmark, a farming sector initiative cut accident rates by 40% in the target group. This group was 'exposed' to safety checks at the farm and behaviour training.
- **Company-driven initiatives can produce equally dramatic results.** Reductions of over 50% appear possible if the specific risks in the working environment are dealt with systematically. But also more general methods such as Tuttava - focussing on tidying up the workplace - seem to be able to cut accidents by about 20-40%. Moreover, safety can be improved substantially in major infrastructure projects such as building bridges and making tunnels for high-speed railways by taking special safety measures or through campaigns.

CASE STUDIES

Action taken at the national or regional level

- Safety during the construction of the Bologna-Florence high-speed rail (Italy)
- Scaffolding initiative in the Alsace-Moselle region (France)
- The Øresund fixed link: safe procurement in the construction sector — the Danish landworks
- 'Safety with every step': a national campaign by an Austrian accident insurance institution to prevent falls
- How to reduce accidents in high-risk companies by using a targeted inspection campaign: Programa Aragón (Spain)

Action taken at the sector level

- Falling overboard in the maritime sector — Let's talk about it! (France)
- Prevention strategy for the security industry in Germany — A model for occupational safety
- Farm accidents: a Danish model for prevention
- The 'Recipe for safety' — Safety at work in the food and drink industry (United Kingdom)
- Accidents in the German construction industry involving falls from heights
- Preventing road accidents in the Italian Highway Police force
- The Irish construction safety partnership — CSP
- The invisible co-driver: an alcohol awareness programme for truck drivers in the Netherlands
- Preventing hazards from dust fires and dust explosions in Germany
- Prevention campaign in the textile and clothing industry in Portugal

Action taken at the enterprise level

- Preventing needle-in-finger injuries in the clothing and textile industry — the case of William Baird
- Navigable inland waterways in Belgium: cutting accident figures down by implementing a systematic safety policy
- Long-term action for occupational safety and health: TITAN
- Safety management in the steel industry: ARBED

Action using standardised instruments

- Safe and productive working habits: Tuttava
- The WASP method — workgroup analysis for safety promotion
- Prevention contracts for SMEs based on sector agreements in France



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Reduced severity rates

Often the severity rate of the accidents, measured by the length of absence from work, goes in line with the reduction in the frequency of accidents. Although there seem to be exceptions:

- in the Belgium programme on navigable inland waterways there was little decrease in the severity rate in spite of a strong decrease in the frequency;
- in the French case on prevention contracts there has been a substantial decrease in the severity, indicated by an approximate 40% reduction in costs per accident, but the decrease in frequency was apparently insubstantial.

Strong reduction in fatal accidents

In some cases information on the number of fatal accidents has been included. This indicator follows the trend of the accident frequency rates; although the falls in fatal accidents appear to be more pronounced. In complicated infrastructure works, such as the Øresund bridge between Denmark and Sweden and the high-speed railway in Italy between Florence and Bologna, this indicator is also used. Both projects seem to have had considerably lower fatal accident rates than similar earlier infrastructure projects.

Positive cost-benefit ratios

In some of the programmes studied it was possible to calculate a cost-benefit ratio. The ratio for the Austrian case on preventing falls at the workplace was 1:6. That means that every euro invested is returned six times. In the case 'Recipe for safety' – Safety in the food and drink industry – this ratio was 1:4-1:5.5. In the case of the security industry in Germany it was pointed out that the safety measures introduced paid for themselves within three years.

Qualitative assessment of the cases

The cases described above contain several features that have contributed to the success of the action and can be considered as essential elements in good practices aiming to cut accident rates.

The importance of a monitoring system

All the cases underlined the need to effectively assess the risks, both at a sector level and at the individual workplaces. A strong, statistically-based monitoring system to track accident incidence and severity after a programme is introduced also appears to be an important element. The data from this type of system enables more in-depth analyses and to identify potential weak points that need to be addressed in future.

Preventing risks at source

In some of the initiatives studied, such as 'Scaffolding action in the construction sector in Alsace-Moselle' and 'Preventing needle-in-finger injuries — William Baird' technical measures can control and sometimes even eliminate risk at its source. Scaffolding that can be set up and used safely and finger protection guards that can be installed on new or old sewing machines are examples of how this can be done. However, these types of devices need to be promoted to other companies. Moreover, tools like these are simply the first step toward greater safety at work, as new technology often requires training, advice, new working methods and financial resources.

Social dialogue, partnership and workers' involvement

Social dialogue between employers, employees or their representatives at the enterprise level, and unions and employers' associations at the sector, regional or national level, is an important condition for success.

In Ireland, in response to a bad occupational accident record, a partnership agreement was signed between government, employers, employees and the institution in charge of occupational risk prevention. The objective of this partnership action was to promote a culture of safety in the construction sector. Each player has its own role to play in the partnership. Similarly, in 'Recipe for Safety' in the food and drink industry, employers and the employees' unions in this industry agreed on a 'common strategy' document. This agreement incorporates a commitment by each partner, and also lays down actions for each of the parties, including the institution in charge of occupational risk prevention, covering all stages of the campaign. 'Preventing needles-in-fingers injuries — William Baird' is another example of cooperation where action started with a corporate initiative. The aim was to develop a safety device for the company's own use. Once the device was shown to be effective, and with the company's agreement, it was promoted within the industry by the union with the help of the institution in charge of occupational risk prevention. The device has been widely accepted and the concept has been integrated into a CEN standard.

The need to tailor measures to an industry's or enterprise's environment

Accident prevention measures have to take into account the organisation's particular circumstances, including resources. More specifically any initiatives have to be practically applicable and not too complex or expensive. In some cases, this suggests that external financial support or grants may be required, although assistance could also come in the form of technical advice or training.

General applicability of lessons from the study

All the Accident Prevention Programmes described in the report can, in principle, be used in another context, irrespective of whether they were originally applied to issues at a national, regional, sectoral or enterprise level. Some programmes such as the Tutava instrument are even explicitly designed for use in different companies/workplaces, sectors, and even countries.

How to get the report

The full report is available in English on the Agency's Web site at <http://agency.osha.eu.int/publications/reports/workaccidents/> where it can be down loaded free of charge. The printed report - "**How to reduce workplace accidents**", European Agency for Safety and Health at Work, 2001, ISBN 92-95007-42-5 can be ordered from the EC's Publications Office EUR-OP in Luxembourg (<http://eur-op.eu.int/>), or from its sales agents. The price is 13 EURO in Luxembourg (excluding VAT).

This Fact Sheet is available in all EU languages at <http://agency.osha.eu.int/publications/factsheets/>

'Preventing work-related accidents' was the theme for the European Week for Safety and Health at Work 2001 and more information is available at <http://osha.eu.int/ew2001/>.