Out of sight, out of mind?

Managing distributed workers' occupational safety and health

Our research and development programme

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

In this document, you'll find a summary of the independent research we commissioned from the University of East Anglia, Affinity Health at Work and Kingston University, entitled 'Out of sight, out of mind? Research into the occupational safety and health of distributed workers'.

www.iosh.co.uk/getfunding

Out of sight, out of mind?

What's the problem?

Distributed workers are those who spend at least part of their working week away from a main office or work location. Nearly half of all workers in Western Europe (around 129.5 million people) can be categorised as distributed workers, and the number is believed to be increasing. Distributed working tends to be characterised by factors that make it difficult to manage occupational safety and health (OSH) risks, such as:

- **Less frequent contact:** it may be difficult for OSH practitioners and line managers to keep in contact with distributed workers to support their health and safety, and monitor whether they're employing good OSH practices.
- **Limited access to organisational information:** difficulties accessing organisational information and resources may mean that distributed workers are not familiar with OSH practices and procedures, or updated about relevant training.
- **More than one location of work:** moving location or working from different locations at different times may present challenges for OSH management, as it may be harder to predict and control the risks faced by distributed workers.

Despite the high proportion of workers engaged in some form of distributed work, there has been little research on the leadership of these workers when it comes to OSH. Given the key role of line managers in ensuring employee health and safety, there was a need to look at the roles of line managers and OSH practitioners in ensuring distributed workers' health and safety, and to explore OSH leadership in this context. In this project, we set out to meet this need and to develop a toolkit to help OSH practitioners introduce leadership and management practices to support the health and safety of distributed workers.

The project had three objectives:
1. Obtain knowledge of appropriate OSH leadership behaviours for OSH practitioners and line managers responsible for distributed workers through demonstrably strong empirical research, exploring three research questions:
   a. Are current OSH leadership frameworks applicable in the context of distributed working?
   b. What other frameworks or models may be applicable to, or optimal for, the OSH leadership of distributed workers?
   c. Can OSH practitioners apply appropriate frameworks in distributed working contexts to ensure effective OSH leadership from line managers?
2. Identify skills and competencies underpinning effective leadership behaviours that facilitate good OSH practices among distributed workers.
3. Develop a toolkit for OSH practitioners to enhance the development of underpinning and effective line management behaviours that facilitate good OSH practices among distributed workers.

What did our researchers do?

There were four phases to the research.

Phase 1: Systematic literature review of empirical research examining the OSH leadership and management of distributed workers. To get a broad a view, the literature search encompassed different distributed working occupations. The purpose of this phase was to understand research to date and use this understanding to inform research phases 2, 3 and 4.

Phase 2: Interviews with OSH practitioners and experts to gather views on OSH leadership behaviours, and the enablers of, and barriers to, good OSH practice for distributed workers across a range of different occupations and industrial sectors where distributed work is prevalent. The team undertook 11 scoping interviews with OSH experts from policy, practice and academia, and then developed interview questions for OSH practitioners using information from the expert interviews, along with findings from the literature review. Next, 41 telephone interviews were conducted with OSH practitioners responsible for distributed workers across a range of occupations and hazard environments. The interviews were voice-recorded and transcribed. The purpose of this phase was to inform the questions for the survey questionnaire in phase 3 and to help develop a toolkit in phase 4.

Phase 3: A questionnaire-based survey to examine the OSH leadership provided by OSH practitioners and line managers to distributed workers. The questions asked about OSH leadership and the health and safety of distributed workers. The questionnaires were issued (through web links or via hard copies) in 19 organisations that employed distributed workers across a range of sectors, including transportation, telecommunications, engineering and advisory services. In total, 40 OSH practitioners, 112 line managers and 822 distributed workers completed the questionnaires. Workers were asked to rate the leadership behaviours of their line manager and, where they had direct contact, the health- and safety-specific leadership behaviours of their OSH practitioner. Their line manager was asked to rate the leadership behaviours of their OSH practitioner; and the OSH practitioner rated their own leadership behaviours. Workers were also asked about specific OSH outcomes, such as their wellbeing, job satisfaction and safety performance.

Phase 4: Toolkit development to produce practical materials for use in organisations, including a self-reflection framework, to help OSH practitioners in the OSH leadership of distributed workers. The toolkit was developed from information collected in the interviews (phase 2) and findings from the survey (phase 3). The toolkit was refined following a review by the research project steering group.

What did our researchers find out?

Phase 1: Literature review

The literature review revealed that no leadership frameworks had been developed with the specific view of capturing the complexities of distributed working, but that existing leadership frameworks are relevant in the OSH of distributed workers. Previous studies had shown that supervisor support was important, as was line managers' use of motivational language and competent leadership. In addition, previous research suggested that other factors might need to be in place to ensure the health and safety of distributed workers. These include good communication characterised by face-to-face interaction; clear and concise communication, particularly when communicating electronically; and high safety standards in the organisation.

Phase 2: Interviews

The interviews identified that the most commonly adopted leadership behaviours were those falling under the categories of transformational leadership, transactional leadership (contingent reward) and leader–member exchange (specifically focused on trust between the manager and worker). OSH practitioners talked about two strategies for exercising OSH leadership behaviours: first (the 'cascade'), role modelling good OSH leadership behaviours to line managers with the aim of encouraging line managers to display OSH leadership behaviours to distributed workers; and second (the 'bypass'), OSH practitioners displaying OSH leadership behaviours directly with distributed workers. OSH practitioners emphasised the importance of both the content and the means of communication. They also reported that the following are important to ensure the health and safety of distributed workers:

- organisational resources in the form of training and awareness
- events promoting occupational safety and health
- policies and procedures
- monitoring and reporting systems
- the use of appropriate health- and safety-specific technology and equipment.

Phase 3: Survey

The results of the survey showed:

- **Leadership behaviours from line managers to distributed workers:** distributed workers' self-rated health, wellbeing and job satisfaction were related to their line managers' level of leadership across all five types of leadership behaviour included in the survey:
  - transformational leadership
  - transactional (contingent reward) leadership
  - leader–member exchange (trust)
  - health-specific leadership
  - safety-specific leadership.

The survey results suggest that line managers have an influence on the health and safety of distributed workers through one-to-one contact with individual workers, rather than through shared experiences of leadership behaviours in work groups. The five leadership styles were also related to the extent to which distributed workers complied with safety standards and used safety equipment. The items developed specifically for this study as a result of the interviews did not display good psychometric properties.

The survey response rates of the various groups of respondent are listed in Table 1.

- Influence of OSH leadership behaviours through line managers to distributed workers (the 'cascade'): the team found no evidence for a cascading effect. The results suggest that line managers do not adopt the behaviours displayed by their OSH practitioners; how line managers come to exert health and safety behaviours may depend on factors not explored in the research.

- Influence of OSH leadership directly from OSH practitioners to distributed workers (the 'bypass'): in cases where OSH practitioners had direct contact with distributed workers, the team found that health- and safety-specific leadership behaviours were directly related to distributed workers' job satisfaction, safety performance, self-rated health and enthusiasm about their jobs. However, the findings indicate that line managers' leadership behaviours have more extensive relationships with distributed workers' OSH outcomes.

Table 1 Type of distributed worker

Type of distributed worker	Percentage of respondents
Lone worker	83%
Construction site worker	19%
Engineering site worker	57%
Public transport worker	1%
Goods transport worker	7%
Security and police worker	1%
Plant operations and maintenance worker	24%
Roadside construction worker	12%
Domestic property worker	7%
Mobile worker (frequent travel from site to site or travelling for business)	71%
Domestic care worker	1%
Services consultant	6%
Public space worker	5%
Working from home	73%

Phase 4: Toolkit

The toolkit is made up of six elements:
1. OSH practitioner self-reflection framework, designed to help OSH practitioners ensure good OSH and support line managers of distributed workers. This consists of four areas of skills and abilities:
   a. getting the message across to distributed workers
   b. listening and understanding distributed workers and their role
   c. empowering and collaborating with distributed workers
   d. cascading to distributed workers via line managers.

2. Checklist of the most common barriers and facilitators that may influence the extent to which OSH practitioners develop and employ the skills and abilities listed.

3. Line manager leadership framework, including 'self-report' and 'self plus one other' questionnaires, based on the behaviours found to be relevant in this context.

4. Checklist of the most common OSH risks experienced by distributed workers.

5. Real-life examples covering the different phases of the OSH management of distributed workers, including risk mitigation, early response and ongoing management of risks, risk prevention and OSH promotion.

6. Overview of managing the OSH of distributed workers.

Figure 1 provides an overview of the components of the toolkit.

Figure 1 Overview of the toolkit components

What does the research mean?

The research suggests that line managers have a key role to play in determining the health and wellbeing of distributed workers and the extent to which distributed workers comply with safety standards, use safety equipment and assume responsibility for safety issues. Existing leadership frameworks can help understand the kind of leadership needed in this context, particularly transformational leadership, transactional leadership, leader–member exchange, and health-specific and safety-specific leadership models. It appears that line managers' behaviour affects distributed workers' OSH at a one-to-one level, rather than through influencing the team as a whole. This suggests that it's important for the line manager to build a relationship with each worker individually.

Employers' organisations and OSH practitioners need to support line managers to show the relevant leadership for their distributed workers. However, the role of OSH practitioners is not one of modelling the relevant leadership behaviours, but more of providing line managers with knowledge and support, regular communication and enabling them in the OSH aspects of their management role.

OSH practitioners can also have a direct influence on the health and safety of distributed workers by getting OSH messages across, listening and understanding, and empowering and collaborating with distributed workers. There are some facilitators and barriers that may influence the extent to which OSH practitioners can fulfil this role.

The toolkit developed from this project can help organisations and practitioners apply the findings of this research. Copies of all the toolkit materials are provided at **www.iosh.co.uk/outofsight**. The aim is that:

- The real-life examples and the checklist of risks common to distributed workers provide knowledge about which risks to look for and how to manage them, helping set the context, build understanding of OSH for distributed workers and inspire OSH practitioners to take appropriate action in their own organisation.
- The self-reflection framework sets out what OSH practitioners need to do to support OSH outcomes in distributed workers, while the checklist of facilitators and barriers can help organisations ensure OSH practitioners develop and employ the skills and abilities listed.
- OSH practitioners can support line managers to display good OSH leadership behaviour by using the line manager leadership behavioural framework, including the questionnaires provided, to help line managers understand their existing leadership repertoire and develop their OSH leadership skills.

Don't forget...

As with all research studies, there are limitations to consider when drawing conclusions from this research:

- The literature review showed that most studies focus on one occupation only. To mitigate this narrow focus, this research included a wider range of occupations. While this means that the results can be generalised across occupational settings, they maye be too general to apply to some occupations.
- The interviews for the research were conducted with OSH practitioners only, and therefore did not tap directly into the views of line managers or distributed workers. While line managers' and distributed workers' views were sought in the survey, it would have been illuminating to have conducted in-depth interviews with these groups.
- In the interests of keeping the survey questionnaire short, only five leadership frameworks were included, rather than all the frameworks that came up in the interviews. Other leadership behaviours may also be important, although the findings do suggest that the five included are the most relevant.

- The survey was cross-sectional, so it can't demonstrate that changes in leadership behaviour predicted subsequent changes in distributed workers' OSH outcomes. For example, it is possible that workers who are healthy have more positive responses from their line manager, enabling the manager to display more positive leadership behaviours. Future research should test these relationships over time.
- Because survey response rates were poor in some cases, the sample is unlikely to be representative of the population of distributed workers as a whole. A related issue is that the survey only included organisations that had links to OSH practitioners, meaning that we can't draw conclusions about how to ensure good OSH leadership in organisations that don't have OSH practitioner support.
- The toolkit needs further user-testing and validation before any conclusions can be drawn about its effectiveness or application.

Other IOSH resources

We have a range of resources on some of the topics covered in this research, including:

- *Home office, mobile office – Managing remote working*[1]
- *Getting the message – Guidance on communication*[2]
- *Safety without borders – Keeping your staff healthy and safe abroad*[3]
- *Managing the safety, health and security of mobile workers – An occupational safety and health practitioner's guide.*[4]

[1] www.iosh.co.uk/homeworking
[2] www.iosh.co.uk/communication
[3] www.iosh.co.uk/withoutborders
[4] www.iosh.co.uk/mobileworkers

Our summary gives you all the major findings of the independent project report by the University of East Anglia, Affinity Health at Work and Kingston University. If you want to read about the study in more depth, you can download the full report from **www.iosh.co.uk/outofsight**.

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