

Remote and Mobile Workers Evidence Based Guidelines for Managing Health and Wellbeing

These evidence based guidelines summarise three sources of research on the health and wellbeing of remote and mobile workers (defined as employees who spend less than 4 hours a week at their office or at a permanent workplace). Specifically they provide evidence based recommendations for line managers and their professional advisers who are responsible for managing the health and wellbeing of remote and mobile workers.

These guidelines cover the research evidence on:

- Mental health
- Musculoskeletal disorders
- Vehicle ergonomics
- Chronic fatigue
- Road rage, assault, theft from vehicles
- Life-work balance

The research analysed for these guidelines is of three types, listed below. It was carried out by the Institute of Occupational Medicine, Edinburgh, and funded by the British Occupational Health Research Foundation with funding contributions from Bunzl plc and Esso UK.

- Systematic review of global published research (10 papers found in scope of review)
- Field interviews with wide range of job holders (both blue collar and white collar)
- Quantitative research in two companies in service engineering/installation (blue collar only)

The full research report, including results and analysis is available at http://www.bohrf.org.uk/downloads/224E05_Final_Report-December_2009.pdf



Mental Health

Evidence based action that can reduce stress in these employees includes:

- Effective journey/"call" planning to minimise miles driven
- Building in time for rest breaks into driving time (the report suggests every 2 to 3 hours as "good practice")
- Clarity on decision making levels of authority

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- Supportive management style when making contact, especially in building trust with colleagues
- Encouraging physical fitness to help reduce chronic fatigue (not easy in this group of workers)
- Mobile phone hands free kit installation and use
- Encouragement of contact with colleague(s) for peer support e.g. by mobile phone in working day, and face to face at training courses/other meetings

The research evidence shows that remote and mobile workers are a “hot spot” for the management of stress. In particular for employees who:

- Report higher levels of general health symptoms
- Drive higher miles per year (the average miles is taken as 10,000 miles per year)
- Display higher levels of chronic fatigue

64% of remote and mobile workers were found to have mental health above the level defined as psychological distress (GHQ-28 validated questionnaire binary score above 4) based on the quantitative research. This is significantly above the general working population, and significantly above the proportion found in review of previous research.

The quantitative research found that “stress” increased as chronic fatigue increased and also with an increase in higher levels of general health adverse symptoms (both very significant statistically); it also increased with miles driven (statistically significant also less so than the other two factors).

The review of published research found moderate evidence that poor mental health in remote and mobile workers is associated with

longer working hours per week, more customers per month, high psychological demands, low decision authority, conflicts, job insecurity, unclear roles and role conflicts. However another piece of published research found that better mental health was associated with more time with customers and a high level of mileage.

This review also found moderately strong evidence that:

- Neck symptoms were associated with high work demands, low control over time, lack of variation in work and high levels of perceived competition
- Shoulder symptoms were associated with high work demands and uncertainty over employment
- Back symptoms were found to be associated with low levels of interaction with colleagues and feeling overworked

And weaker evidence that:

- Isolation and frustration through lack of communication may be a risk factor
- There is likely to be difficulty in problem identification and solution within remote working groups



Musculoskeletal Disorders

Evidence based action that could reduce musculoskeletal disorders in this group of workers includes:

- Consider providing automatic transmission vehicles (this might reduce the incidence of problems to left wrist by eliminating gear changing; and to left ankle and knee by eliminating need for clutch operation)
- When drivers are parked up, encourage use of cafe/service area seating/tables (where possible, or alternatively customer/client premises (where feasible) for laptop computer or office work use to improve ergonomics and reduce back and neck strain. Where such facilities are not possible, encourage use of passenger seat, or, in cars, rear seat, where space is better than in driver's seat
- Assess the ergonomics of stowing and removing materials into and out of vehicle, including headroom in "walk in" vehicles
- Build in breaks to working day especially for drivers who cover long distances/drive for significant lengths of time (the report suggests every 2 to 3 hours is "good practice"). Encourage drivers to get out of vehicle when taking breaks, to walk and stretch

The quantitative research analysed what parts of the body are affected the most for different outcomes and occasions of pain. Low back pain dominates whether on pain experienced, time taken off work, or impact on performance. Knee pain also featured in all these issues. Other parts of the body featured in different respects, with the main findings summarised below. The full details are in the main report.



Absence above 7 days occurred most frequently for low back pain, wrist/hand pain, knee pain, feet/ankle pain. The picture for absence below 7 days was similar except that neck pain was much more significant as a cause of such absence (2nd only to low back pain). The top three conditions leading to doctor visit were lower back pain, knee pain, neck pain.

Left wrist pain featured in pain and discomfort experienced in the last twelve months, and in reduction in being able to carry out normal activities.

Right shoulder pain featured in pain and discomfort suffered both in last seven days and in last twelve months. Previous research suggests this might be associated with being a smoker.

Previous research on remote and mobile workers found moderately strong evidence that

- The most frequent areas of symptom reporting were the neck, shoulders and lower back. (The quantitative research has more detail)
- Women are at an increased risk of neck and shoulder symptoms
- Neck symptoms for women were associated with driving more than 10000 miles per year, and carrying out sedentary work for more than one quarter of working time
- Shoulder symptoms were associated with being in a car for more than 10 hours per week and being a smoker or ex-smoker
- Low back symptoms were associated with driving more than 10,000 miles per year, driving more than 20 hours per week, sedentary work all the time, standing, having an uncomfortable car seat, carrying loads in and out of cars, being a smoker or ex-smoker, being over 45 years old and reporting psychological problems including depression and anxiety
- A correlation found between sickness absence with low back pain and those who drive as part of their job and the numbers of hours driven

Vehicle Ergonomics

Evidence based action that can be taken to reduce risks arising from vehicle ergonomics includes:

- Provision of vehicles that have seats adjustable for forward/backward movement; seat height; seat back angle: and that have adjustable steering wheel

- Training of drivers in correct seat adjustment; in correct height adjustment of head restraint (the top being at eye level); correct steering wheel position/adjustment
- Build in breaks to driving schedule and encourage drivers to get out of vehicle to walk and stretch (the report suggests a break every two to three hours is “good practice”)

The quantitative research found that 85% felt comfortable when driving (although that does not necessarily mean that their seats etc were optimally adjusted or that the musculoskeletal risk was as well controlled as it could have been). This is based on 77% of respondents driving transit vans and 12% driving small vans. When discomfort was reported it was linked to a lack of headroom, poor pedal position and no backrest angle adjustment.

The review of existing research found moderately strong evidence that:

- An adjustable lumbar support in a vehicle is associated with fewer absences from work with back pain
- Shoulder pain was associated with not having steering wheel adjustment within the vehicle
- Higher levels of discomfort in cars was linked to drivers reporting problems of not enough headroom, poor pedal position, poor steering wheel adjustment and no backrest angle adjustment
- Individuals who carry out office work in their vehicles have identified issues including a lack of temperature control, cramped conditions, lack of time, lack of storage space and physical pain



And weaker evidence that:

- Fixed postures when driving are linked to musculoskeletal pain
- Handling bulky materials in and out of vehicles identified as a risk factor

Chronic Fatigue

This was not found to be a major problem in any of the three aspects of this research, although the quantitative research found a significant association between high levels of stress and chronic fatigue.



Road Rage/Assault/Theft from Vehicles

Evidence based action that could reduce the incidence of these problems, and reduce the impact of their consequences, includes:

- Encouragement of open reporting of such incidents to gauge full extent of problem and any key root causes
- Training in incident avoidance

- Training in defusing situations and managing them
- Support for those who show signs of stress or trauma following such incidents
- Continued attention to vehicle, vehicle contents, laptop and blackberry security

The quantitative research found that:

- 45% of the research participants had suffered road rage at least once in the last year
- 11% had suffered assault in the last year
- 27% reported theft from vehicle on at least one occasion in the last twelve months

Access to Occupational Health; Safety; Training

Evidence based action includes:

- Ensure training opportunities are made known to remote and mobile workers
- Ensure relevant health and safety information is readily accessible to such workers (e.g. company Intranet)
- Where occupational health provision exists ensure remote and mobile workers have same access as other employees

The evidence shows the importance of remote and isolated workers not being excluded from this provision. This is particularly difficult for training provision.

The quantitative research found that the data appears positive for both access to safety and occupational health. However, this is not repeated on the final question with regard to training.

Life-Work Balance

The quantitative research found that with regard to the impact of work on home life, respondents were quite positive in that most found they had sufficient time for family life, could balance work and family life and felt that work had a positive impact on family life.

Other Issues in Lone Working

There are other issues regarding lone working that were outside the scope of this (which was specifically on remote and mobile workers), e.g. employees making it known when they are moving from one location to another and when they have completed their day/shift assignments; and that need to be managed.

Other Sources of Information

Ergonomics

<http://www.hse.gov.uk/pubns/indg90.pdf>

<http://www.ergonomics.org.uk>

<http://drivingergonomics.lboro.ac.uk/index.html>

Lone Working

<http://www.hse.gov.uk/pubns/indg73.pdf>

Musculoskeletal Disorders

<http://www.hse.gov.uk/msd/index.htm>

Occupational Health Toolkit

<http://www.ohtoolkit.co.uk/>

Occupational Road Risk

<http://www.rospa.com/morr/index.htm>

<http://www.hse.gov.uk/roadsafety/index.htm>

<http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme2/safetycultureandworkrelate51.pdf>

<http://www.hse.gov.uk/pubns/indg382.pdf>

Work Related Stress

<http://www.hse.gov.uk/stress/index.htm>

This guidance was prepared by Dr Brian Kazer of BOHRF and Dr Joanne Crawford at IOM. It was based on the report prepared by Crawford, JO, MacCalman L and Jackson CA, The Health and Wellbeing of Remote and Mobile Workers, Report No 603-00911, IOM, Edinburgh

