



The Health and Safety Effects of Night Work

Report Summary

Introduction

There is strong evidence in existing literature of a link between shift and night work to negative health outcomes including cardiovascular, gastrointestinal and metabolic disorders such as diabetes and metabolic disorder, with weaker links to cancer, reproductive disorders and mental health. Proposed biological pathways for these associations are related to circadian rhythm disturbance and sleep deprivation, as well as social desynchronisation.

This report investigates workers' experience of night work and the impact it has on their lives. The research included five unions: the Communication Workers Union (CWU), the National Union of Rail, Maritime and Transport Workers (RMT), the Transport Salaried Staffs' Association (TSSA), Equity, and Community. It is based on interviews with a national officer from each union and 55 union members working night shifts in a range of workplaces and job roles.

Over one quarter (27%) of Britain's workforce are night-time workers¹. While over half are male (56%), in the past decade the number of female night-time workers has increased and there are proportionately more people from Black and Minority Ethnic (BME) backgrounds working at night, compared to the overall workforce². In this research, just over one-third (36%) are female, over half (53%) are over 50 and one-third (33%) have been working nights for over 20 years. Just under ten per cent were from BME backgrounds.

¹ <https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/articles/thenighttimeconomyuk/2022>

² Young Foundation, 2011.

Report findings

Work intensification and excessive overtime

Respondents reported psychosocial risks in the night work environment involving work intensification and extensification. Staff shortages led to excessive work demands and placed pressures on workers, including working overtime to cover for vacancies or colleagues' absences, extending hours and intensifying fatigue. This was particularly significant in the rail industry. Overtime may be motivated by financial reasons, managerial pressure or a commitment to public services and to help colleagues out in the context of staff shortages.

“you can regularly go home absolutely exhausted from the mental strain of dealing with incidents” – a transport worker

Lone Working

Those on night shifts may be lone workers and thus face significant risk, including dealing with violence.

“it's not without its financial cost to suddenly be getting taxis home every night” – a theatre worker

Sleep

Overwhelmingly, workers reported that night shifts result in fragmented and split sleep patterns with difficulties in re-adjusting to normal sleep patterns when not working nights. Their experience confirms academic literature which describes sleep deprivation due to poor quality, split sleep of short duration related to circadian rhythm disturbances and external noise. Most workers reported feeling exhausted for several days after night shifts, including during annual leave, and that this affects their mood and potentially their mental health.

“there is no doubt about that [we are] vitamin D and daylight deprived for an entire week. [Colleagues] will sleep outside on a sun lounger... just to literally get some vitamin D to the bones” – a prison officer

Fatigue

Circadian rhythm misalignment and sleep deprivation result in excessive fatigue which respondents described as feeling 'completely wiped-out', 'shattered', 'permanent grogginess', 'like a zombie', having 'brain fog' to the extent of short-term memory loss. Fatigue occurs both during and following night shifts. Fatigue associated with night work is

exacerbated for older workers, who reported poorer quality and more disturbed sleep as they aged. This is aligned with the research suggesting that older workers are less tolerant of night work.

“tiredness has an impact on safety when you're making your way home. If you're exhausted you're not as alert ... then there's a vulnerability there isn't there, which is particularly acute for women” – a theatre worker

Insufficient recovery time

Recovery time following night shifts, and particularly between rotating shift patterns is often insufficient to allow re-adjustment to normal day sleeping patterns. In rail, as elsewhere, the day of the morning when the run of night shifts ends is defined as a day off between shifts, but this is contentious since workers finish night shifts in a state of exhausted and that day is spent recovering and preparing for shift transitions rather than their own free time. TSSA members reported that rail companies count a weekend off as beginning from when a night shift ends on Saturday at 7am in the morning when workers are exhausted. To manage shift transitions workers will often get a few hours' sleep when they get home from work, then will try to stay awake as long as they can in the hope of sleeping properly that night in an effort to try to readjust their circadian rhythms to going back to day shifts. Recovery time eats into workers days off work and annual leave. This is not a burden experienced by normal day shift workers, yet recovery time is not paid for by organisations and forms part of workers' 'free time.'

“people do come in after a shift where they shouldn't be coming in, and mistakes are made” – a prison officer

12-hour shifts

There appears to be a move in some organisation towards 12-hour shifts. Some workers prefer 12-hour shifts over shorter periods, giving them more time away from work or opportunities for overtime. However, working twelve rather than eight hours shifts has significant implications for fatigue, particularly in safety critical industries and where workers drive home after night shifts. The Office for Rail Regulation (ORR) advocates maximum shift lengths of 12 hours for a day shift, 10 hours for night and early shifts and eight hours for shifts starting before 05:00. It also suggests that 'time at work' should consider travel times to and/or from the place of work and possible limits on maximum 'door-to-door' times. It advises a minimum rest period of 12 hours between consecutive shifts, increasing to 14 hours in the case of consecutive night shifts.

Relationships and Social Life

Night shifts were reported as having negative impacts on relationships and family life, particularly where children are involved, confirming research that shows shift-working can increase the risk of relationship breakdown. Social desynchronisation can make it more difficult for workers to have a social life and to form new relationships. At the same time the

imposition of changes to shift patterns can disrupt workers' carefully orchestrated work-life balance.

“You become isolated from everything, you're living in a different time zone” – a postal worker

Diet and exercise

Many workers reported poor diets because of night shifts and struggled to prepare food and eat healthily at work and home or to find the energy and time to exercise. Lack or minimal meal breaks at work further undermined diets and eating. To a significant extent their repeated efforts to establish and maintain good diet and exercise routines were undermined by excessive fatigue associated with the regimes of night shift work. Night workers could feel like 'poor relations' in terms of provision of facilities.

“you're pouring coffee and cookies down your neck, because you're trying to get some sort of energy into your system... there's not loads of really healthy options available after midnight” – a transport worker

Access to services

Night shift workers can have difficulties accessing services, including medical appointments. Shift workers may use annual leave for medical appointments. Access to public transport is limited or non-existent for night shift workers. Workers generally drive home after night shifts and can commute long distances, adding up to two hours to the working day. Fatigue means risk of traffic accidents and/or near misses. For those finishing shifts late at night, such as theatre workers, getting home or to car parks can put them (especially women) at risk, particularly when touring in unfamiliar towns.

“people have put off doctors, hospital appointments because most of the time it's going to be in the morning and it's a pain, you know – can I get a couple of hours sleep or go or should I go?” – a postal worker

Employer Support

There was limited evidence of specific employer support for night workers and an apparent move away from onsite occupational health services accessible at night. In rail there are questions about the extent to which fatigue management responsibilities are taken seriously by management.

The literature shows that genuine worker control over shift patterns and rosters can reduce the negative impact on social and family life, however, respondents often found management unreceptive to requests to change shifts or to drop the number of night shifts worked. Management inflexibility is exacerbated where there are staffing shortages.

Key recommendations

The health and safety approach dictates that we begin by eliminating risk, and as such the amount of night shift work should be minimised and contracts requiring increases in these should be resisted. Where nightwork exists, based on existing research, we recommend the following:

1. **Risk assessments and health monitoring.** Adoption of robust fatigue risk management systems (FRMS) for all those doing night work, including fatigue risk assessments, non-punitive fatigue reporting systems, confidential staff fatigue surveys and physical and mental health support at the workplace during working hours. To complement this; union health and safety representatives must be resourced and supported in educating workers about fatigue, how to navigate the fatigue assessment processes, and the assessment and interventions required to manage psychosocial risks. Employers should be carrying out health monitoring for night workers, on account of the health risks, and to help with earlier diagnosis of problems.
2. **Higher pay for night work.** The value of nightwork premia should be reassessed to ensure that it compensates for the physical and mental toll of nightwork and disruption to family and social life. At national level unions could consider pushing for a mandatory minimum premium for working nights.
3. **Stronger regulation.** HSE and ORR guidance on shift work and night shifts needs stronger enforcement across workplaces, especially in safety-critical industries. These guidelines refer to: lengths of shifts, length of blocks of night shifts, number of recovery days following night shifts; avoiding slow rotations and backwards rotations of shifts; avoiding excessive overtime; ensuring adequate meal breaks and comfortable rest facilities; minimum time off between shifts; addressing fatigue in relation to safe commuting; avoidance, where possible, of permanent nightshifts. For theatre workers employers are required under health and safety legislation to provide safe exits from venues and this needs stronger enforcement.
4. **More time for recovery.** A review of the number and timing of recovery days, including the current HSE minimum of 12 hours between shifts to ensure they are sufficient to enable recovery from night shifts. The effects of sleep deprivation and circadian rhythm misalignment are cumulative, and recovery time should align with the number of days in blocks of night shifts, should follow night shifts, and be sufficient to ensure recovery before shift changes. Rest periods between shifts should permit sufficient time for commuting, meals and sleep. There is a case to be made for employer contributions to recovery time, such as paid recovery leave days or extra annual leave.
5. **More say for workers.** Greater effective worker control of rosters and shift patterns would ameliorate some of the negative impacts of night work for workers and the

managerial imposition of changes to established shift patterns avoided. The option for individual rosters is especially important for those with dependent children and older workers. Workers should have the right to transfer from nightwork to other shifts on a temporary and permanent basis and/or to reduce the number of shifts they work.

6. **Protection for older workers.** Workers have reduced tolerance for shift work and experience increased problems with sleep and related conditions as they age. There is a case for workers to have a right to move from night work onto day work from the age of 50, or before in the case of poor health and that regimes of night work adjusted to accommodate the impact of aging.
7. **Avoiding late lone working.** Lone working during night shifts should be avoided, or (at a minimum) suitable support provided to ensure the physical and psychological safety of workers, and those travelling alone to and from the workplace late at night should be supported to make safe journeys.
8. **Time off and rest breaks.** Nightshift workers should have the right to time off work to make and attend medical appointments as well as for domestic responsibilities and emergencies. Workers must also be enabled to take the meal breaks that they are due, and employers should ensure that healthy and hot food be provided for night workers, along with clean and suitable social spaces and quiet areas. Employers should ensure parity of facilities between day and night workers, for example access to toilets and kitchens.