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The new junior doctors' contract: an occupational health & safety perspective.

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The attempts by the UK government to first negotiate, and then impose a new contract on junior doctors working in the NHS in England (but not the rest of the UK) has lead to an unprecedented industrial dispute. One of the key features of the new contract, that is the focus of much debate within the media and elsewhere, is the move towards providing hospital services seven days a week. The government has argued that this is needed to address poorer patient care outcomes for patients who are admitted to hospitals at the weekend. The British Medical Association (BMA), representing the junior doctors, argue that, among other things, the new contract is not fair and that it represents a threat to patient safety as well as doctors' own wellbeing. The arguments about fairness are complex, but one of the key issues is that under the new contract, junior doctors believe that they will be required to work more 'unsocial hours' without any compensatory increase in their overall levels of pay. From an occupational health and safety perspective, the BMA's main arguments against the introduction of a seven day NHS have concerned the impact of weekend working on (i) overall workloads and the consequences for fatigue / safety; and (ii) doctors' work-life balance and the disproportionate impact the changes will have on part time workers and those with caring responsibilities i.e. primarily women.

The new contract attempts to address the issue of fatigue by including new limits on the hours that junior doctors can work. The new measures include reducing the maximum number of weekly hours; reducing the maximum length of a shift; a minimum interval of 11 hours between rostered shifts, with restricted work hours following an inter-shift interval of less than 8 hours; reducing the number of consecutive nights that can be worked; a compulsory 46 hour break after

completing three or four consecutive night shifts; reducing the number of consecutive long shifts (> 10 hours) that can be worked; a compulsory 48 hour break after completing five consecutive long shifts (or four consecutive long, late evening shifts); limiting the frequency of weekend working to no more than one weekend in two; a maximum of eight consecutive shifts with 48 hours rest after eight consecutive shifts (apart from low intensity non-resident on-call rotas, for which a 12 day maximum applies); restrictions on the frequency and duration of on calls; and the introduction of a 'guardian of safe working hours'.

One of the main safety concerns raised by the BMA concerns the implementation of seven day working without reducing weekday services. This is to be achieved while either maintaining or even reducing the number of hours that junior doctors will work. Unless staffing levels are increased, which is not proposed by the government, this will mean that doctors are redistributed from weekdays to weekends, thereby increasing the overall workload for doctors working during the week (1). This has potential negative implications for patient safety and doctors' wellbeing. Another key factor in the dispute is that there are no proposals to increase the availability of any other healthcare professionals at the weekend, so that it is unclear how patient care at the weekend can be improved without increased access to facilities such as blood tests, x-rays or physiotherapy.

On the positive side, the new contract contains a number of changes to the hours which junior doctors are allowed to work, which should contribute to the management of their fatigue. Overall weekly hours will not be increased and those working the longest hours should see a reduction. While some have argued that

restricting junior doctors work hours risks limiting their 'on the job training' (see below), many would welcome the elimination of excessively long work hours for doctors in training. Long shifts and working several consecutive night shifts both tend to be associated with accumulated fatigue (2), so reducing the maximum spans of these are both good things. We have argued that a single rest day following a block of nights is insufficient for full recovery (3), and so introducing a compulsory break of 46 hours after a block of night duties is also to be welcomed. Whether the changes have the desired effect on patient safety and doctors' wellbeing depends, of course, on whether these new limits can be universally implemented in practice or whether they will exist only on paper (see below).

A key question is how the extension of what are regarded as 'normal work hours' will affect doctors' fatigue. While the new contract should not increase the overall *number* of hours that are worked, it is likely to change *which* hours doctors typically work. In particular, doctors may be more likely to find themselves working more weekends and evenings than previously. Part of the debate over the new contract focuses on whether poorer patient outcomes for those admitted to hospital at weekends (4) are a result of lower standards of care (e.g. due to inadequate staffing) or other factors, such as the poorer condition of patients who are admitted at weekends (5). Whatever the truth of the matter, there is little to suggest that fatigue is an especially salient issue in this particular debate, as reflected by the finding that patients already in hospital over the weekend are not at greater risk (4).

Notwithstanding the debate over outcomes for patients admitted at the weekend, the new contract does include a number of measures that aim to mitigate fatigue related to weekend working. For example, placing limits on the number of consecutive days that can be worked should go some way to limiting the accumulation of fatigue over a workweek that extends into the weekend. Similarly, restricting the amount of work that can be undertaken on a weekend that falls between two consecutive full work weeks (Monday to Friday) should moderate the accumulation of fatigue that occurs over 12 consecutive shifts (6). However, it remains to be established empirically whether such measures would be sufficient to promote adequate recovery in the majority of cases. Likewise, while a limit on the frequency of weekend working is to be welcomed, it remains open to question whether having doctors working every other weekend (i.e. the maximum frequency permitted under the new contract) can be regarded as 'safe' or 'healthy'.

Regarding the less discussed 'normalisation' of evening hours (i.e. extending 'normal hours' from 19:00 to 22:00), there is some evidence from industrial studies that evening work is associated with greater risk than equivalent work conducted in the morning (2). This may possibly be a result of people working later in the day having been awake for longer by the end of their duty period. Thus it is conceivable that there could be an increase in risk associated with treatments undertaken in the evening that would have previously been undertaken during the day. One other potentially negative change within the new measures is a (slight) reduction in rest break frequency. Under the new contract, there is an entitlement to a 30-minute break after 5 hours and another after 9 hours; it was

previously a 30-minutes break every 4 hours. This could in theory lead to an in increase fatigue-related risk (7).

Turning to doctors' own health and wellbeing, leaving the significant issue of overall workloads aside, the contract features a number of positive elements. Long weekly work hours are commonly linked with poorer health outcomes (8), so any reduction in weekly work hours (or least, no increase) is a good thing. Similarly, reductions in other fatiguing aspects of the work schedule (e.g. number of consecutive nights and long shifts) may also have positive knock on effects on health. However, those who end up working more weekends and evenings may experience greater strain, particularly if they have families (3).

The new contract does not explicitly address overall workloads *per se*. Moreover, as noted above, it has been argued that it will in fact increase workloads. As experience with the European Working Time Directive (EWTD) has shown, rearranging or reducing work hours in order to counteract fatigue can be counterproductive if other factors are not taken into consideration. Moreover, failure to consider factors such as workload can also lead to working time limits being subverted, such that they exist only 'on paper', but not in practice (9).

Nevertheless, the new contract does address some of the key fatigue related issues that have previously been reported as being of concern to junior doctors (10), such as limiting the number of consecutive nights that can be worked. The new restriction on the number of consecutive long shifts is also likely to be welcomed. However, it is notable that there is no provision for reducing the *overall frequency*

of long shifts, despite evidence that shorter shifts may be safer (11). Other issues of common concern among junior doctors, such as not having time and facilities for rest breaks (10), are not addressed directly by the new contract.

Another issue that is not directly addressed in the new contract is that of self-scheduling. The BMA and the Royal College of Physicians (RCP) recommend involving staff in shift rota design (10), with evidence pointing towards the beneficial effects of work time control, e.g. on doctors' sleep (12). Despite this, few junior doctors report participating in the design of their work schedules (10). Although the new measures do not directly promote self-scheduling, the introduction of 'guardians of safe working hours' may go some way to giving junior doctors a voice in how their work hours are arranged. That said, the guardians will not manage individual work schedules.

The introduction of the guardians of safe working hours should in theory ensure that work hours limits are enforced and that rota design is informed by best practice, but it depends how this is implemented in reality. Given that patient demand often outstrips available resources, doctors are frequently under pressure to work beyond official work hour limits (9). Thus, while there have been recent moves to strengthen the role of the guardians (13), it remains to be seen whether they will have the power to address problems when they are reported.

It is clear from the arguments that arose around the implementation of the EWTD that rearranging junior doctors' work hours may affect their education and training. It is possible that the new contract may exacerbate some of the negative

impact that the earlier work hour restrictions is said to have had upon training. The implementation of the EWTD reduced the time available for junior doctors to work and train alongside more senior doctors during the day, due to the combination of a limit on the overall number of hours worked and the long length of night shifts. With the extended definition of 'normal hours' under the new contract, even a small increase in out of hours working could have a disproportionate effect on training opportunities.

It could be argued that the junior doctors' dispute has moved away from issues of safety, health and working patterns, as reflected by the fact that an amended contract was recommended by the BMA but was rejected by the workforce. It seems that the crux of the dispute is now focussed upon how junior doctors view the prospects of the NHS under current government policy. Thus while occupational safety and health considerations remain crucial to how we organize the work of junior doctors, the current debate seems now to be more clearly centred in the political arena.

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