Hospital Residents Working Medical Shifts Longer than 16 Hours

The pros and cons of shorter working hours for medical residents have been well rehearsed and well articulated. The EU established the European Working Time Directive (EWTD) in 2003 to avoid the exploitation of employees with a limit on the number of hours working hours, 4 weeks paid annual leave, and mandatory rest periods in every 24 hour shift. In 2004 junior doctors came under the remit. Their working week was limited to 58 hours and further reduced to 48 hours in 2009. Some countries including Ireland due to staff shortages were slow to adopt the new directive.

The central themes are patient safety, training, and work-life balance. The arguments in favour of shorter hours include doctor fatigue and well-being, the risk of error, and ultimately patient safety. The reservations are increased handovers, lack of patient continuity, daytime work compression, and reduced training and education opportunities.

Much of the debate has been based on the impact of sleep deprivation on the individual doctor’s ability to function optimally. It is commonsense that it is difficult for a doctor to continue to work when he is fatigued. However it has been difficult to quantify the precise effects on patient care. Rosenbaum states that ‘in a world moved by story we like to believe that medicine is moved by measurement’. In the US, resident work-hour limits were implemented in 2003. The resident work-week was reduced to 80 hours and shifts to 30 hours. The limits were introduced following the death of Libby Zion and the conclusion that it was related to fatigue among the treating medical staff. In 2011 work shifts were further reduced to 16 hours for interns. In 2017 the limitation on the length of shifts was largely reversed.

The issue has been revisited in two recent US studies. Silber et al, as part of the iCOMPARE research group, randomised, residents/institutions to either an 80 hour week with a 16 hour shift limit or an 80 hour week with flexible shift hours. The main outcome variable was the patient 30 day mortality, which was non-inferior in the flexible shift hour group. The readmission or death at 7 days and readmission or death at 30 days was also non-inferior. The authors concluded that flexible hour schedules do not adversely patient safety.

In the second study of the iCOMPARE group, Basner et al investigated the alertness and sleepiness levels in the residents randomised to the standard 16 hour shift or the flexible hour shift arrangement. The sleepiness levels were non-inferior in the flexible hour residents. Similarly, the sleep duration averaging 7 hours per night was similar for both groups. Interns compensated for lost sleep on extended shifts by sleeping more during time off.
These two recent studies suggest that shift hour periods longer than 16 hours do not adversely affect patient safety or resident alertness as long as the total hours worked per week do not exceed the set limits. The studies were large with 205 interns in the flexible shift hour limb and 193 interns in the standard shift hour limb. The findings are worthy of consideration but are not readily application to our EWTD arrangement. In the US the total weekly work limit is 80 hours. In Ireland the target is 48 hours per week averaged over a year. Our shift hour limit is 24 hours which does not include protected teaching time. The NCHDs must have at least 11 hours between shifts and one consecutive 35 hours off each week.

The longer shift hour periods are more popular among many NCHDs in Ireland. The arrangement reduces the shift frequency. Frequent shifts, even of shorter duration, can be very tiring. In my own hospital, the NCHDs start their shift at 3pm and finish the following morning at 9am, amounting to 18 hours. This arrangement was arrived at over the last few years and appears to best suit our resident staff. Nationally, the compliance with the 24 hour maximum shift is 98% and with an averaged 48 hours working week is 84%.

The iCOMPARE group have also looked at hospital work practices in the broader context. There is a concern that in a changing landscape the voice of the patient has become to some extent lost. The shorter working hours and the multiple teams makes it difficult for a patient to identify with a particular doctor. The term ‘continuity’ comes up frequently. It is one of the major distinctions between hospital practice and general practice. Continuity of care is one of the hallmarks of GP care. As a result patients have high levels of confidence in their family doctor. Good communication between the hospital and the GP is important in order to ensure good continuity. Nurses play a pivotal liaison role in keeping the patient in the loop and bringing all the strands of his care together. Integrated care is the modality that achieves the best results for patients. It is a worldwide trend among national health services. The objective is that healthcare within the hospital and the community is connected seamlessly. The development of patient electronic health care records help greatly in sharing of clinical information between health professionals. Many commentators have stated that integration improves lives, saves lives, and reduces medical costs. It reduces fragmentation and duplication, the two major obstacles to healthcare improvement.

These recent studies illustrate the complexity in how best to deploy resident medical staff. Striking the correct balance between the competing key considerations of service and training has been difficult. The new objective findings bring some further clarity, which will help to inform future work practice planning.

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