# Residents Rosters: Reversal to Longer Hours in the US

Residents' working hours have been a subject of debate across all developed countries over the past three decades. There has been an absence of high quality to inform the controversy. Asch et al[1] state 'at times, the debate has seemed rooted in opinion rather than evidence'. In the absence of outcome patient data, there has been a greater emphasis on the impact of long hours on the trainee. The matter is centre stage once again.

The Chicago based Accreditation Council for Graduate Medical Education (ACGME) who regulate doctors' hours in the US have increased first year residents shifts from 16 to 24 hours. An additional four hours will be allowed to transition patients from one doctor to another, so residents could work for as long as 28 hours. The 80 hours per week limit remains in place. This is a reversal of the restrictions on working hours that have been in place for the past 5 years. The new measure came into force this month. The reason given by the ACGME was that the shorter hours had not improved patient outcomes. The findings of Bilimora et al[2] were influential in its deliberations. That large study involving 139,000 patients and 4,330 residents found no difference in outcome for patients treated in the standard duty hour system compared with a flexible less-restrictive system. The ACGME stated that the shorter shifts disrupt continuity of care leading to more frequent handovers. In addition it concluded they adversely affect training. It didn't accept the counter argument that shorter hours are unlikely to significantly influence patient outcome because junior residents have much less key responsibilities compared with a decade ago. The impact of longer hours on the doctors who have to work them seemed to have been a more secondary consideration. The distress by tiredness and lack of sleep may be long-lasting. Understandably, the new longer working directive has met with widespread criticism by residents. Also in a nationwide poll of 67,000, the majority of the public were opposed to the return to longer working hours for doctors. Furthermore they felt that the 16 hours limit should be extended to all residents, not just first year residents. A spokesman stated that 'residents are dedicated and hard-working but they are not superhuman'.

The decision of the ACGME is surprising given the well-recognized impact of both acute and chronic sleep deprivation. The evidence for harm to people who are deprived of sleep is robust. 'Night floating', abrupt switching between day and night shifts, appears to have particularly bad side-effects. The literature indicates that alertness and performance is linked to one's circadian rhythm. Irrespective of one's occupation, sleep deprivation can lead to errors in day-to-day activities. There is an increased of car accidents, needle-stick injury, and depression.  Sleep deprivation takes its toll on even the healthiest individuals quite quickly[3]. Moderate sleep deprivation such as being awake for 18 hours has

the same effect as being at the legal alcohol limit. Deep sleep is physically refreshing while REM sleep consolidates learning and regulates emotions. At a more basic level hospital employers and health services have been accused of promoting long hours because junior doctors are a captive source of cheap labour. Junior doctors lack bargaining power and generally have little say over their working conditions. Some senior doctors may look down on junior doctors because they don't work as long or as hard as they did. In this situation junior doctors may feel compelled to work excessive hours. This 'hero' attitude where the patient is more important than self-care is misguided. All doctors have a duty to care for themselves, otherwise they may endanger their patients.

The supporters of reduced residency hours were deeply concerned about doctors awake for 24 hours caring for sick patients. On the other hand, the detractors believe that longer hours produce more competent consultants at the end of training. The anecdotal nature of the arguments is illustrated by the death Libby Zion, an 18 year old student who died in 1984 from a drug interaction. The findings of a subsequent inquiry changed resident working practices in the US. The New York State grand jury concluded that the patient had been treated by overworked, fatigued residents. Since that time, duty hour policies have been continually addressed and reviewed in the US.

The provisions of the European Working Time Directive (EWTD) were transposed into Irish law in July 2004. The main directive was a maximum 48-hour working week. Initially the limit was 58 hours, with a subsequent reduction to 48-hours in 2009. Implementation was slow and patchy. The European Commission referred Ireland to the European Court of Justice in Nov 2013 because of non-compliance with the EWTD. In 2013, Irish doctors took part in a one-day strike over 'dangerously long hours'[4]. Long hours have been unpopular among Irish trainees for many years. A Facebook study of 388 doctors and nurses who had emigrated found that concerns about respect and working conditions were important considerations. The respondents stated that their emigration was driven by professional rather than personal reasons.  Since the recession in 2008, Ireland has experienced high levels of health professional migration. Between 2009-2014, a total of 1,155 doctors and 2,338 nurses went to Australia[6].

Progress has been made in recent years In Ireland. In 2009, the average roster was 60 hours per week. This subsequently reduced to 54 hours per week in 2012, and 51.5 hours in 2013. According to available documents, Ireland has now reached 80% compliance with the 48 hour working week. This compares favourably with a 33% compliance in 2011. From the outset there have been concerns about reduced hours for trainees. The EWTD does not impact on all specialties equally. Different specialties have had varying levels of success in adapting training to a shorter week. In the UK acute medicine and surgery found it most difficult, whereas anaesthetics and paediatrics coped well. Paediatrics managed by centralizing acute services. Concern was particularly voiced by craft specialties such as surgery. It is estimated that a typical surgeon would work 30,000 hours between becoming an SHO and a consultant

surgeon[5]. A 48-hour week reduces training opportunities by 25%. One of the effective ways to compensate is for trainees to work in centres with higher clinical volumes.

Excessively long hours and sleep deprivation are a holdover from the early 20th Century. The notion that the work schedule must be physically and psychologically punishing is archaic. The issues of continuity and handovers are important but can be mastered. We need to learn from nursing who universally have very effective systems of communication between outgoing and incoming nurses. The EWTD directive has been very beneficial for doctors across the EU including Ireland. Its impact on patient morbidity and mortality will always be difficult to measure because these KPIs are influenced by so many factors. Common sense and fairness would indicate that nobody should work too hard for too long. The public has frequently stated it does not wish to be cared for by fatigued, sleep-deprived doctors.

**JFA Murphy**
**Editor**

**References:**


1. Asch DA, Bilimoria KY, Desai SV. Resident duty hours and medical education policy- raising the evidence bar. N Engl J Med 2017;376:1704-1706.
2. Bilimoria KY, Chung JW, Hedges LV et al. National cluster-randomised trial of duty-hour flexibility in surgical training. N Engl J Med 2016;374:713-727.
3. Farquhar M. Fifteen-minute consultation: problems in the healthy paediatrician- managing the effects of shift work on your health. Arch Dis Child Educ Pract Ed 2017;102:127-132
4. Maybury C. The European working time directive: a decade on. Lancet 2014;384:1562-1563.
5. Donohue CL, Sayana MK, Kennedy MT, Niall DM. European working time directive: implications for surgical training. Ir Med J 2010;103:57-59
6. Humphries N, McAleese S, Matthews A, Brugha R. Emigration is a matter of self preservation. The working conditions are killing us slowly: qualitative insights into health professional emigration from Ireland. Human Resources for Health 2015;13;35