The European Working Time Directive: potential impact on cardiology specialist registrar training

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Abstract

This short report looks at the effect the European Working Time Directive has had on cardiology specialist registrar training.

Key words: European Working Time Directive, training, specialist registrar.

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Introduction

The European Working Time Directive (EWTD) ensures doctors do not work excessive hours. On 1st August 2004, junior doctors were no longer excluded from the EWTD and their working hours were limited by law to 58 hours per week. By 2009, this will be reduced to 48 hours. Although benefits include improved patient care,[1] the EWTD has implications for service provision and specialist registrar (SpR) training.

Before its implementation, concerns over service provision and SpR training were raised: improvements in health and safety were predicted to be at the expense of juniors' training time. The Royal College of Physicians' Trainees Committee expected impaired continuity of in-patient care and reduced staffing levels.[2] Others envisaged the disruption of team dynamics and reduced training opportunities.[3-5] The effects of the EWTD on training in other specialist fields validate these predictions.[6-13]

Specialist training in cardiology requires the acquisition of key skills and knowledge that can only be acquired through practical experience. The reduction in working hours has necessitated the formulation of alternative work patterns for juniors and many now work a full shift (FS) system. We wished to consider the effect of the EWTD on cardiology SpR training by comparing different types of on-call rotas. We suggest options for maintaining the quality of training whilst adhering to the EWTD.

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Methods

Using a weekly timetable in place at our hospital (that adheres to Specialist Advisory Committee [SAC] training recommendations), we generated a one year dataset for one in eight to one in 20 on-call rotas for three types of on-call system:

- an on-call (OC) system whereby, when on call, the trainee was available for acute General (Internal) Medical (GIM) duties and general cardiology duties/training
- an on-call with-the-following-day-off, partial shift (PS) system whereby, when on call, the trainee was available for acute GIM duties as well as general cardiology duties/training
- a full-shift (FS) system whereby, when on call, all speciality sessions were cancelled and the trainee was dedicated to the acute GIM take.

We studied the number of days on call and trainees' availability for sessions, and calculated the potential extension in length of SpR training that would be necessary to achieve the equivalent session availability as a six-year OC system.

Results

Although the numbers of on-call days decreased with a reduction in the frequency of on-calls from a one in eight to a one in 20 for the OC, PS and FS rotas, a greater reduction was evident with the FS system (OC: 46 to 21, PS: 46 to 21 and FS: 94 to 42).

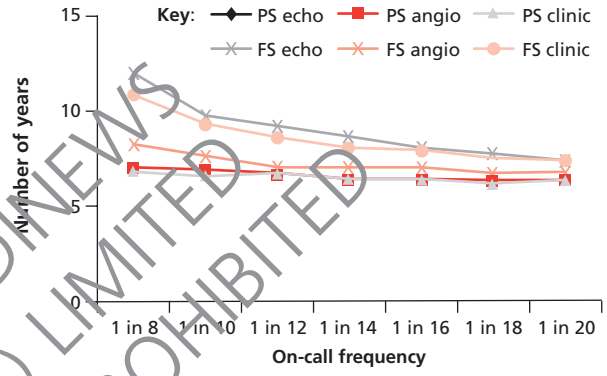
Reducing the frequency of on-calls from one in eight to one in 20, increased echocardiography, coronary angiography and out-patient clinic training session availability for the FS system and also for the PS system but to a lesser extent (table 1). The OC system was not affected. There were significant differences between the days a trainee was available for echocardiography, coronary angiography and out-patient clinic training sessions in the PS and FS systems when compared to the OC system at all frequencies of on call (all P values <0.001, df=1). An extension in cardiology SpR training by as much as six years was required to achieve the equivalent echocardiography session availability as a six-year OC system, (out-patient clinic and coronary angiography were less affected) (figure 1).

Table 1. Echocardiography, coronary angiography and out-patient clinic training session availability per year for types of and frequencies of on-call rotas. Our weekly timetable included one echocardiography session, two coronary angiography and pacing sessions (held on the same day) and two out-patient clinic sessions (on different days). We did not adjust for bank holidays, annual or study leave, or prospective cover. Chi squared and Fisher's exact tests were used to compare PS and FS proportions of session availability with the OC system session availability

		Session availability (number of days per year)		
On-call frequency (days)	**On-call system**	**Echo**	**Angio**	**Clinic**
1:8	OC	52	52	104
	PS*	45	45	91
	FS*	26	38	58
1:10	OC	52	52	104
	PS*	46	46	94
	FS*	31	41	67
1:12	OC	52	52	104
	PS*	47	47	94
	FS*	34	44	72
1:14	OC	52	52	104
	PS*	48	48	96
	FS*	36	44	76
1:16	OC	52	52	104
	PS*	48	48	96
	FS*	38	44	79
1:18	OC	52	52	104
	PS*	49	49	99
	FS*	40	46	83
1:20	OC	52	52	104
	PS*	49	49	99
	FS*	42	46	85

Key: echo = echocardiography; angio = coronary angiography and pacing; clinic = out-patient clinic; * p<0.001; OC = on-call system (see text for details); PS = on-call-with-the-following-day-off, partial shift system (see text for details); FS = full shift system (see text for details)

Figure 1. Potential extension in cardiology SpR training to achieve the equivalent training sessions as the OC system at six years. Under our FS system, echocardiography sessions were affected more than coronary angiography and pacing sessions (despite both being single sessions) and was due to compensatory time off after a weekend of nights. Our weekly timetable included one echocardiography session, two coronary angiography and pacing sessions (held on the same day) and two out-patient clinic sessions (on different days) (see table 1). We did not adjust for bank holidays, annual or study leave, or prospective cover. On-call frequency varies from 1 in 8 to 1 in 20 days. Data assumes weekly timetable, rota type and on-call frequency do not vary over length of training



Key: echo = echocardiography; angio = coronary angiography and pacing; clinic = out-patient clinic; * p<0.001; OC = on-call system (see text for details); PS = on-call-with-the-following-day-off, partial shift system (see text for details); FS = full shift system (see text for details)

Continuity of care was not affected by the OC system, which achieved the maximum number of days (365-(52x2)) when a trainee would be available for general cardiology ward duties regardless of the frequency of on call. The FS system and, to a lesser extent, the PS system, both affected continuity of care, although the effect was reduced by decreasing on-call frequencies from one in eight to one in 20.

Discussion

The EWTD impacts upon the quantity and continuity of care provided to patients by junior doctors. It reduces the provision of services by juniors who have forgone their availability for training. Because the traditional OC system ensured that a trainee was available to cardiology and GIM when on call, availability for specialist training sessions and continuity of care were less affected, a point emphasised by our study. The PS system is less detrimental to service provision, continuity of care and training than the FS system.[9]

Getting the balance right

A compromise between GIM training, cardiology specialist training and service provision is difficult. When over half (57%) of cardiology trainees would relinquish GIM training,[14] one must consider whether SpRs should train purely in cardiology and opt into a GIM scheme if desired? At present, this is not an SAC recommendation. Alternatives include employing staff grade doctors to reduce on-call frequency, redesigning rotas so that training sessions are not affected by rest days, using physician assistants in low-risk cases,[15,16] (which may allow greater time for the trainee to spend undertaking the complex cases), or simulation training.[17] Training the trainers to use alternative methods (such as competency based training or work-place based assessments) may improve the quality of an SpR's training. However, improvements in training are likely to need greater input from consultants upon whose time there are ever-increasing demands.[18]

How our hospital maintained SpR training quality

We felt that continuity of patient care and dedicated training ses-

Key messages

- The European Working Time Directive has unfavourably impacted on the training of cardiology specialist registrars
- Different on-call rota systems affect the availability of trainees for speciality sessions and continuity of care
- Trainees may need to extend their training by a number of years to achieve equivalent number of cardiology training sessions

sions were the key to quality training. As a result of the study, we employed cardiology staff grade doctors and recruited new SpRs into other specialities so that the FS on-call frequency was reduced. We enabled cardiology SpRs to be 'free' from the medical admissions unit on the morning of their on-call shift. The trainee would be supernumery during training sessions and we emphasised competency-based training to ensure the time spent in training was of the highest quality.

Our study may not be representative because specialist training in cardiology ensures the trainee rotates through district general hospitals and tertiary referral centres where on-call systems and frequencies vary. Nonetheless, a proportion of a trainees' time is spent in district general hospitals where there may be limited numbers of SpRs effecting an intensive FS system. To achieve the equivalent number of cardiology training sessions as pre-EWTD, a trainee may have to extend their training by a number of years. Although ground lost in quantity of training may be compensated by improved quality of training, a reduction in session availability will limit quantity of training (which is important for procedure competency) and, ultimately, quality of patient care.

Conclusion

While some have adapted well to the EWTD,[9] its unfavourable impact upon the training of cardiology SpRs, the provision of a responsive cardiovascular service and the continuity of patient care are clear. Reducing the GIM on-call rota frequency improves SpR training session availability, but ward presence and speciality training sessions do not reach the levels that existed with traditional on-call rotas. We feel that regular, focused training sessions that emphasise competency and continuity of care at the ward level are central to quality cardiology SpR training.

Conflict of interest

None declared.

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