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The impact of the European Working Time Directive 10 years on: views of the UK medical graduates of 2002 surveyed in 2013–2014

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Summary

Objectives: To report doctors' views about the European Working Time Directive ('the Directive').
Design: Survey of the medical graduates of 2002 (surveyed in 2013–2014).
Participants: Medical graduates.
Setting: UK.
Main outcome measures: Questions on views about the Directive.
Results: The response rate was 64% (2056/3196). Twelve per cent of respondents agreed that the Directive had benefited senior doctors, 39% that it benefited junior doctors, and 17% that it had benefited the NHS. More women (41%) than men (35%) agreed that the Directive had benefited junior doctors. Surgeons (6%) and adult medical specialists (8%) were least likely to agree that the Directive had benefited senior doctors. Surgeons (20%) were less likely than others to agree that the Directive had benefited junior doctors, whilst specialists in emergency medicine (57%) and psychiatry (52%) were more likely to agree. Surgeons (7%) were least likely to agree that the Directive had benefited the NHS. Most respondents (62%) reported a positive effect upon work–life balance. With regard to quality of patient care, 45% reported a neutral effect, 40% reported a negative effect, and 15% a positive effect. Most respondents (71%) reported a negative effect of the Directive on continuity of patient care, and 71% felt that the Directive had a negative effect upon junior doctors' training opportunities. Fifty-two per cent reported a negative effect on efficiency in managing patient care.
Conclusions: Senior doctors agreed that the Directive benefited doctors' work–life balance. In other respects, they were more negative about it. Surgeons were the least positive about aspects of the Directive.

Keywords

Attitude of health personnel, workload/legislation and jurisprudence, physicians, career choice, workforce, medical, medical education

Introduction

The European Working Time Directive ('the Directive') was introduced within the European Union with the aim of improving working practices with regard to working hours, rest breaks, and holidays.[1] Essentially, the Directive restricts the average length of the working week to 48 hours, although individuals can opt out if they wish. In the United Kingdom, the Directive was first applied to senior doctors in 1998 and then phased in for junior doctors in 2004.

Concerns about the Directive have primarily focussed upon its impact on doctors' training and patient care.[2–6] Training in some specialties, such as surgery, is difficult to carry out effectively within the 48 hour week.[5,7–9] A recent review of the Directive in the UK found that, among other things, aspects of patient care have been affected. For example, there has been an increase in the number of handovers and list cancellations.[7] The aforementioned review recommended that 'opt-outs' by doctors from the provisions of the Directive should be encouraged and more widespread.[7]

In two previous studies, in 2012, of doctors who had experience of working before and after the implementation of the Directive, we found that doctors were critical of the Directive.[10,11] Only one-third of doctors agreed that the Directive had benefited junior doctors (31%). Much smaller percentages agreed that the Directive had benefited senior doctors (12%) or the NHS as a whole (9%).[10] In this new study, we asked doctors in 2013/14 about the implementation of the Directive and also about its impact upon other areas of healthcare, training, and lifestyle.

The aim of this paper is to report on doctors' views, in 2013/14, about the implementation of the Directive. We asked doctors, generally, about perceived benefits brought about by the Directive; and more specifically, about the impact of the Directive upon their own experience of working in their specialty, with regard to patient care, training, and work–life balance.

Methods

The Medical Careers Research Group surveyed the UK medical graduates ('cohort') of 2002 between August

2013 and April 2014. The survey took place by post and online. It was multipurpose and covered questions and statements about their career progression, future career intentions, and views about training and working in clinical practice. Up to four reminders were sent to non-respondents. We omitted doctors who asked to be excluded, and doctors for whom we did not have a current address or email. Further details of the methodology are available elsewhere.[12]

The following statements were presented to doctors: 'The implementation of the European Working Time Directive has benefited senior doctors', 'The implementation of the European Working Time Directive has benefited junior doctors', and 'The implementation of the European Working Time Directive has benefited the NHS'. Doctors could choose from the following tick box answers: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. A further option of 'don't know/no opinion' was presented in the survey.

Doctors were also asked to describe the effect of the implementation of the Directive on their experience of work in their specialty with regard to 'Continuity of patient care', 'Quality of patient care', 'Efficiency in managing patient care', 'Junior doctors' training opportunities', and 'Doctors' work–life balance'. Respondents could choose from the following options: positive, neutral/no effect, negative, and don't know/no opinion.

We analysed the results by survey year, sex, and specialty group (adult hospital medical specialties, paediatrics, emergency medicine, surgery, obstetrics and gynaecology, anaesthetics, radiology, clinical oncology, pathology, psychiatry, general practice, and 'other medical specialties' comprising those in public health and community health). Doctors who were unemployed, not working in medicine, or with an unknown specialty were excluded from the analysis. The data were analysed by univariate cross-tabulation. We used χ^2 tests to compare responses between groups. In analysis we combined responses of disagree and strongly disagree and refer to the combined group as 'disagreement', and we similarly combined agree and strongly agree to form 'agreement', thereby reducing the five response categories to three. We used adjusted residuals to identify subgroups which deviated from the group average.

Results

The response rate was 64.3% (2056/3196). Of those who replied, 60.8% were women (1250). Of the 2056 respondents, 69 had an unknown specialty, were not working in medicine, or were unemployed. Doctors were excluded from the analysis of a question if they left the question blank or answered 'don't know'. We looked separately at doctors who were not working for the NHS and found no difference in responses to the main questions about the Directive, when compared to all respondents: therefore doctors who did not work for the NHS were included in the analysis.

The implementation of the European Working Time Directive has benefited senior doctors

Overall, 12% of respondents who expressed a view agreed that the Directive had benefited senior doctors and 66% disagreed (Table 1). Men and women did not differ appreciably in their views ($\chi^2_2 = 2.2$, $p = 0.34$). There was significant variation in the level of disagreement expressed by doctors working in different specialties (Table 2). By examining residuals (see 'Methods' section) we concluded that surgeons (6%) and adult medical specialists (8%) were significantly less likely to agree, compared with the overall average. We note that 339 of the 2056 respondents (16%) did not express a view on this question.

The implementation of the European Working Time Directive has benefited junior doctors

Views on this statement were mixed. Of those who expressed a view, 39% agreed that the Directive had benefited junior doctors and 45% disagreed. Women were significantly more inclined than men to agree that the Directive had benefited junior doctors (41% compared with 35%; $\chi^2_2 = 9.6$, $p = 0.008$). There was also significant variation by specialty. Surgeons (20%) were less likely to agree, whilst specialists in emergency medicine (57%) and psychiatry (52%) were more likely to agree, compared with the cohort average. Only 219 of 2056 respondents (11%) failed to express an opinion.

The implementation of the European Working Time Directive has benefited the NHS

Overall, 17% of respondents who expressed a view agreed that the Directive had benefited the NHS, and 58% disagreed. Women (19%) were marginally more inclined than men (15%) to agree that the Directive had benefited the NHS, but the difference did not reach statistical significance ($\chi^2_2 = 5.4$, $p = 0.07$). As for the other two questions, variation by specialty was significant. Surgeons (7%) were markedly less likely to agree, compared with the cohort average.

Comparison with the graduates of 1999 and 2000, surveyed in 2012

We have previously reported agreement levels of 9, 31, and 12% for the statements about whether the

Table 1. Doctors' views of the implementation of the European Working Time Directive: UK medical graduates of 2002 surveyed in 2013.

	Men		Women		Total	
	N	%	N	%	N	%
The implementation of the European Working Time Directive has benefited senior doctors						
Strongly agree/agree	79	11.2	123	12.2	202	11.8
Neither agree nor disagree	167	23.6	209	20.7	376	21.9
Strongly disagree/disagree	462	65.3	677	67.1	1139	66.3
Total	708	100.0	1009	100.0	1717	100.0
The implementation of the European Working Time Directive has benefited junior doctors						
Strongly agree/agree	262	35.1	448	41.1	710	38.6
Neither agree nor disagree	117	15.7	185	17.0	302	16.4
Strongly disagree/disagree	367	49.2	458	42.0	825	44.9
Total	746	100.0	1091	100.0	1837	100.0
The implementation of the European Working Time Directive has benefited the NHS						
Strongly agree/agree	110	15.1	196	18.9	306	17.3
Neither agree nor disagree	173	23.7	254	24.5	427	24.2
Strongly disagree/disagree	446	61.2	585	56.5	1031	58.4
Total	729	100.0	1035	100.0	1764	100.0

Results include 69 doctors surveyed in 2013 with an unknown specialty, or who were not working in medicine, or were unemployed. 2013 survey: men = 806, women = 1250.

implementation of the Directive has benefited, respectively, senior doctors, junior doctors, and the NHS, for the 1999 and 2000 cohorts of graduates when surveyed in 2012. The results reported here for the graduates of 2002 in 2013/14 of 12, 39, and 17% suggest a modest increase in approval ratings. Disagreement ratings in the earlier study were 64, 47, and 59% which are very similar results to the 66, 45, and 58% found in this study.

Areas of work and the effect of the European Working Time Directive

We asked respondents to give their views on the effect of the implementation of the Directive on five areas of their work. Table 3 shows the overall results and Table 4 shows the results for doctors working in different specialties. For each area of work, there was significant variation in the results by specialty. Results by sex varied between the five areas of work.

Continuity of patient care. Only 3% of respondents reported a positive effect of the Directive on continuity of patient care: the majority (71%) reported a negative effect (Table 3). Men and women did not differ in their views ($\chi^2_2 = 5.5$, $p = 0.07$). Surgeons (85.1%) and adult medical specialists (79%) were more negative than the all-specialty average (Table 4). General practitioners, pathologists, and emergency medicine specialists were less negative than the average.

Quality of patient care. The largest percentage of respondents reported a neutral effect (45%) on the quality of patient care, while over one-third (40%) reported a negative effect and 15% a positive effect. Men (45%) scored the effect more negatively than women did (36%; $\chi^2_2 = 16.7$, $p < 0.001$). Surgeons (61%) and adult medical specialists (48%) were more negative than the all-specialty average. Anaesthetists and paediatricians were less negative than the average.

Efficiency in managing patient care. The majority of respondents reported a negative effect (52%) on efficiency in managing patient care, and 38.6% were

Table 2. Views of doctors in different specialties about the effects of the European Working Time Directive on their work: UK medical graduates of 2002 surveyed in 2013.

	The implementation of the European Working Time Directive has benefited senior doctors			The implementation of the European Working Time Directive has benefited junior doctors			The implementation of the European Working Time Directive hasbenefited the NHS		
Specialty	% agree	% neither agree nor disagree	% disagree	% agree	% neither agree nor disagree	% disagree	% agree	% neither agree nor disagree	% disagree
Medical specialties	8	17	75	35	16	49	16	18	66
Paediatrics	16	23	61	48	17	35	24	25	51
Emergency medicine	27	19	54	57	16	27	24	32	44
Surgery	6	17	77	20	14	66	7	20	73
Obstetrics and gynaecology	15	20	65	37	14	49	23	23	54
Anaesthetics	9	23	68	46	14	40	19	28	53
Radiology	19	25	56	32	19	49	20	18	62
Clinical oncology	3	36	61	44	25	31	16	26	58
Pathology	10	27	63	35	20	45	16	30	54
Psychiatry	16	35	49	52	23	25	22	39	39
General practice	12	24	64	39	17	44	18	25	57
Other medical	20	30	50	55	19	26	20	37	43
Total	11.5	22.2	66.3	38.6	16.7	44.7	17.1	24.4	58.5

Results exclude 69 doctors with an unknown specialty, or who were not working in medicine, or were unemployed.
Percentages are of those who responded to the statement (by indicating strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree). '% agree' includes the first two categories and '%disagree' the last two.
Chi-square tests across the 12 specialties, with three response categories, were all significant with $p < 0.001$; senior doctors $\chi^2_{22} = 65.6$; junior doctors; $\chi^2_{22} = 87.0$; the NHS $\chi^2_{22} = 61.0$.
Denominators varied slightly between the three statements but were at least: medical specialties 322, paediatrics 115, emergency medicine 59, surgery 209, obstetrics and gynaecology 39, anaesthetics 170, radiology 61, clinical oncology 31, pathology 57, psychiatry 71, general practice 508, other medical 30.

neutral. Men (57%) were more negative than women (49%, $\chi^2_2 = 10.3$, $p = 0.006$). Surgeons (71%) and adult medical specialists (59%) were more negative than the all-specialty average, and General practitioners were less negative than the average.

Junior doctors' training opportunities. Overall, 71% felt that the Directive had a negative effect upon junior doctors' training opportunities. Men and women did not differ in their views ($\chi^2_2 = 0.9$, $p = 0.62$). Surgeons (85%) were more negative than the all-specialty average. General practitioners and emergency medicine specialists were less negative than the average.

Doctors' work–life balance. The majority of respondents (62%) reported a positive effect upon work–life balance. Men and women did not differ in their views ($\chi^2_2 = 3.1$, $p = 0.21$). General practitioners (90%) were more positive than the average. Surgeons (72%) were least positive.

Discussion

Main findings

Just under two-thirds of senior doctors we surveyed felt that the European Working Time Directive had a positive effect on work–life balance. Doctors were divided in their opinion about the benefit that the Directive had brought to junior doctors (45% disagreed that it had benefited juniors, while 39% agreed). In other respects, they were more negative.

Table 3. Doctors' views of the effect of the European Working Time Directive on their work: UK medical graduates of 2002 surveyed in 2013.

Effect of the European Working Time Directive on doctors' experience of work in their specialty with regard to:		Men		Women		Total	
		N	%	N	%	N	%
Continuity of patient care	Positive	17	2.3	34	3.2	51	2.8
	Neutral/no effect	173	23.7	297	27.8	470	26.2
	Negative	540	74.0	736	69.0	1276	71.0
	Total	730	100.0	1067	100.0	1797	100.0
Quality of patient care	Positive	89	12.3	182	17.4	271	15.3
	Neutral/no effect	310	42.8	485	46.4	795	44.9
	Negative	325	44.9	378	36.2	703	39.7
	Total	724	100.0	1045	100.0	1769	100.0
Efficiency in managing patient care	Positive	61	8.4	106	10.2	167	9.5
	Neutral/no effect	254	35.1	426	41.0	680	38.6
	Negative	409	56.5	506	48.7	915	51.9
	Total	724	100.0	1038	100.0	1762	100.0
Junior doctors' training opportunities	Positive	41	5.6	70	6.6	111	6.2
	Neutral/no effect	168	22.9	246	23.4	414	23.2
	Negative	524	71.5	737	70.0	1261	70.6
	Total	733	100.0	1053	100.0	1786	100.0
Doctors' work–life balance	Positive	442	60.0	684	63.7	1126	62.2
	Neutral/no effect	189	25.6	259	24.1	448	24.8
	Negative	106	14.4	130	12.1	236	13.0
	Total	737	100.0	1073	100.0	1810	100.0

Results include 69 doctors surveyed in 2013 with an unknown specialty, or who were not working in medicine, or were unemployed.

Over two-thirds of doctors believed that the Directive had a negative effect upon continuity of patient care and junior doctors' training opportunities. Two-thirds of doctors disagreed that the Directive had benefited senior doctors. The majority of doctors disagreed that the Directive had benefited the NHS. Most doctors also believed that the Directive had a negative effect on efficiency in managing patient care and over a third felt that it had worsened the quality of patient care.

Surgeons were critical of the implementation of the Directive, its effect upon various aspects of patient care, and its effect upon junior doctors' training. Doctors from the adult medical specialties were also critical of most aspects of the Directive when compared with the average. Doctors from psychiatry and general practice were less critical about the implementation of the Directive compared with the average.

These doctors, who graduated in 2002 and were two years postgraduation when the Directive began to be applied to juniors, were a little more likely to agree that the Directive had benefited junior doctors, senior doctors, and the NHS than the 1999/2000 cohorts, who would already have passed through the junior stage of their careers by 2004.

Table 4. Views of doctors in different specialties about the effects of the European Working Time Directive on their work: UK medical graduates of 2002 surveyed in 2013.

	Continuity of patient care	Quality of patient care	Efficiency in managing patient care	Junior doctors' training opportunities	Doctors' work-life balance
Specialty	% negative	% negative	% negative	% negative	% negative
Medical specialties	79	48	59	73	12
Paediatrics	77	25	51	76	11
Emergency medicine	45	31	38	56	14
Surgery	85	61	71	85	29
Obstetrics and gynaecology	88	51	64	85	17
Anaesthetics	70	30	47	70	13
Radiology	71	45	57	71	6
Clinical oncology	81	32	55	84	12
Pathology	52	32	42	61	10
Psychiatry	61	26	42	66	7
General practice	64	35	45	65	10
Other medical	56	32	48	52	12
Total	71	40	52	71	13

Results exclude 69 doctors with an unknown specialty, or who were not working in medicine, or were unemployed.
'% negative' denotes the percentage of those who responded to the statement (by indicating positive, neutral/no effect, or negative) who replied negative.
Chi-square tests across the specialties were all significant with $p < 0.001$; continuity of patient care $\chi^2_{11} = 88.4$; quality of patient care $\chi^2_{11} = 86.5$; efficiency in managing patient care $\chi^2_{11} = 64.4$; junior doctors' training opportunities $\chi^2_{11} = 55.1$; doctors' work–life balance $\chi^2_{11} = 57.1$.
Denominators varied slightly between the five areas of work but were at least: medical specialties 335, paediatrics 121, emergency medicine 61, surgery 214, obstetrics and gynaecology 39, anaesthetics 171, radiology 58, clinical oncology 29, pathology 50, psychiatry 77, general practice 540, other medical 22.

Strengths and limitations

This was a large-scale national study of doctors who graduated from UK medical schools in 2002. All were senior doctors surveyed 11 years after they had graduated. All of the surveyed doctors experienced the implementation of the Directive when it applied to senior doctors in 1998, and then, gradually, to junior doctors between 2004 and 2009. The views of more junior doctors who had only ever worked under Directive restrictions were not sought on this occasion, and it is possible that they would hold different views. We did not differentiate between doctors who had opted out of the Directive and those who had not.

The response rate was high, but non-responder bias is, as with all surveys, a possibility. As other research has noted, it is not possible to isolate the effects of the Directive from those of other influences such as 'the New Deal' (an earlier contract for junior doctors) and European Court judgements.

Comparison with existing literature

Our findings on the implementation of the Directive accord with our previous study which found strong disagreement that the Directive had benefited senior doctors or the NHS.[10] Other studies and reviews have also reported reduced opportunities for training.[6,7,11] One study found that junior doctors do not want to work longer hours and do not believe that the Directive has had an adverse effect on their training.[2] This same study reported that women doctors in particular did not want to return to long hours and believed that more widespread use of opt-outs by colleagues, enabling them to work longer hours than specified by Directive, would harm their own career progression.

The doctors in our survey reported a positive effect of the Directive on their work–life balance. It is not clear whether junior doctors also believe this to be the case. Despite reporting compliance with the Directive in the UK, some junior doctors are still reportedly

working over 48 hours a week.[2,4,13] Research in the UK found that junior doctors still suffer from fatigue,[14] and, in Germany, there was a risk of burnout for both junior and senior doctors.[15]

The impact of the Directive was viewed most negatively by surgeons, and this has been reported elsewhere.[7,16] A recent study in The Netherlands found no deleterious impact upon the number of procedures carried out by surgical residents.[17] In Norway, a country outside the European Union and therefore not subject to the Directive, the working week has converged around 45 hours and therefore within Directive guidelines, although it has been found beneficial to have a degree of flexibility in certain specialties, particularly surgery.[18]

Conclusion

Further research should ask junior doctors the same questions we asked of senior doctors, and then make comparisons between the two groups of doctors. It would be useful to survey patients, to understand their views on issues such as whether the system offers continuity of care, whether doctors appear tired, and whether they appear to be well trained, and to draw comparisons between specialties. Future research could assess what sort of doctor is likely to opt-out from the Directive (e.g. what sex, specialty, or age), ascertain their motivations for opting out or not (e.g. employability, training, lifestyle, pressure), and compare the views of these two groups with regard to the Directive.

The senior doctors we surveyed were largely critical of the benefits of the Directive to senior doctors, junior doctors, training, and continuity of patient care. Other studies have recommended that doctors need to, and should, work longer hours than the 48 hour week the Directive permits: to allow for longer and better training of junior doctors and better patient care. But policy makers must also be mindful of the benefits the European Working Time Directive has brought about for doctors' work–life balance, as reported to us.

Declarations

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