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Doctors don't Do-little: a national cross-sectional study of workplace well-being of hospital doctors in Ireland

Blánaid Hayes,[1,2] Lucia Prihodova,[2] Gillian Walsh,[2] Frank Doyle,[3] Sally Doherty[3]

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[1]Occupational Health Department, Beaumont Hospital, Dublin 9, Ireland
[2]Research Department, Royal College of Physicians of Ireland, Dublin 2, Ireland
[3]Department of Psychology, Division of Population and Health Sciences, Royal College of Surgeons in Ireland, Dublin 2, Ireland

Correspondence to
Professor Blánaid Hayes;
blanaidmhayes@physicians.ie

ABSTRACT

Objectives To measure levels of occupational stress, burn-out, work–life balance, presenteeism, work ability (balance between work and personal resources) and desire to practise in trainee and consultant hospital doctors in Ireland.

Design National cross-sectional study of randomised sample of hospital doctors. Participants provided sociodemographic data (age, sex), work grade (consultant, higher/basic specialist trainee), specialty, work hours and completed workplace well-being questionnaires (Effort–Reward Imbalance (ERI) Scale, overcommitment, Maslach Burnout Inventory) and single item measures of work ability, presenteeism, work–life balance and desire to practise.

Setting Irish publicly funded hospitals and residential institutions.

Participants 1749 doctors (response rate of 55%). All hospital specialties were represented except radiology.

Results 29% of respondents had insufficient work ability and there was no sex, age or grade difference. 70.6% reported strong or very strong desire to practise medicine, 22% reported good work–life balance, 82% experienced workplace stress, with effort greatly exceeding reward, exacerbated by overcommitment. Burn-out was evident in 29.7% and was significantly associated with male sex, younger age, lower years of practice, lower desire to practise, lower work ability, higher ERI ratio and greater overcommitment. Apart from the measures of work ability and overcommitment, there was no sex or age difference across any variable. However, ERI and burn-out were significantly lower in consultants than trainees.

Conclusions Hospital doctors across all grades in Ireland had insufficient work ability, low levels of work–life balance, high levels of work stress and almost one-third experienced burn-out indicating suboptimal work conditions and environment. Yet, most had high desire to practise medicine. Measurement of these indices should become a quality indicator for hospitals and research should focus on the efficacy of a range of individual and organisational interventions for burn-out and occupational stress.

Strengths and limitations of this study

- This study provides new information on levels of burn-out and other indices of workplace well-being in a national cohort of hospital doctors in Ireland following a period of substantial cutbacks in health expenditure and workforce depletion.
- The utilisation of standard instruments previously used elsewhere allows for comparison with other research on doctors.
- The use of the Effort–Reward Imbalance instrument, encompassing a measure of overcommitment, is particularly appropriate in a study of doctors.
- The good response rate and the range of specialties represented validate the results as being representative.
- The study is limited by the fact that it is cross-sectional in design and causality cannot be inferred from the associations observed.

INTRODUCTION

The links between work and health are becoming established. Work is good for health as long as certain conditions are met.[1 2] However, when work poses excessive demands with little control and support, its impact on both physical and mental health can be negative, leading to stress-related disorders, depression and other common mental health issues.[3–7] Moreover, there is growing evidence that the relationship between Effort–Reward Imbalance (ERI) and poor mental health may be causative.[8 9]

Worldwide, the hospital as a workplace has experienced many changes with growing scientific and technological developments. In Ireland, the financial and personnel constraints imposed by the economic recession (2008) translated into greater work volume, tighter deadlines and dissatisfaction of service users,[10] with the hospital sector described as 'chaotic', 'overmanaged and underled',[11] and failing to deliver consistently high-quality patient care.[12] Previous studies show that systemic weaknesses, often contributed to by human error, have contributed to very negative outcomes for patients,[13–15] further contributing to a stressful environment for those working to provide care. This situation is further exacerbated by increased medical emigration[16] and a national shortage

of nurses and doctors, for whom hospital posts in Ireland are now less attractive[17] at a time of greatest need, with a growing and ageing population and a greater burden of chronic diseases.[18]

Previous studies show that longer working hours and low job satisfaction are associated with burn-out,[19] a syndrome resulting from chronic occupational stress[20] and defined by emotional exhaustion (EE), depersonalisation (DP) and a diminished sense of personal accomplishment (PA).[21] Internationally, reported prevalence of burn-out in doctors has been highly variable with comparison challenged by the fact that it has been reported both as a continuous and dichotomous variable,[21–23] using different combinations of its constituent domains, variations in specialty and grade composition of the doctor population under study[24–28] and with variable response rates. A recent systematic review found overall burn-out prevalence in doctors ranged from 0% to 80.5%.[22] The growing evidences on the links between burn-out and poor care make for a compelling case to try to address the causes, with potential dual benefit to both patients and doctors.[29 30]

The prevalence of psychological well-being in hospital doctors in Ireland has previously been described and illustrates significant differences between grades, with junior trainee doctors experiencing greater distress than their senior, consultant colleagues.[31] Mean hours worked (57 per week) may be a factor with trainees working significantly longer hours than consultants.[31] In the context of the challenging psychosocial environment described above, we were also keen to explore workplace well-being in this population with a view to identifying work issues affecting workplace well-being and helping to guide employers and training bodies towards effective interventions. This study set out to measure parameters of workplace well-being, including occupational stress, overcommitment (coping style characterised by excessive work-related commitment), burn-out, work–life balance, presenteeism (working through illness or injury), work ability (balance between work and personal resources) and desire to practise in a population of hospital doctors in Ireland, to explore differences between grades and to discuss the findings in the context of international trends.

METHODS

Design

The study was a national cross-sectional survey of hospital doctors working in Ireland.

Sample

The sampling method has been previously described in detail.[31] The participants were registered with one of nine national postgraduate medical training bodies in Ireland and included both consultants and trainee doctors in either Basic Specialist Training (BST—equivalent to residency in North America) or Higher Specialist Training (HST—equivalent to fellowship in North America).

Hospital doctors who met the inclusion criteria (fully registered with a postgraduate medical training body and working in Ireland as either consultants or trainees in anaesthesia, emergency medicine (EM), medicine, obstetrics and gynaecology, ophthalmology, paediatrics, pathology, psychiatry and surgery) were stratified and subsequently randomised. The Faculty of Radiology opted out of the study. While no patients or public representatives were involved in the study design, the study was overseen by a stakeholder group with medical representatives from various specialties and grades.

Data collection

The data collection was performed both by post and online in 2014.[31] Participants provided data on demographics (age, sex, nationality) employment stage/grade and years of practising medicine.

Measures

Workload was measured by averaging hours per week over two consecutive working weeks in the past month.[28]

Single items on desire to practise medicine, presenteeism, work–life balance and work ability (defined below) were included and all have previously been used in studies of doctors elsewhere.[31–34]

Desire to practise was assessed by ‘please rate your current desire to practise medicine’ with the option of a 5-level Likert scale (strong desire to regret). This measure was previously used in a cohort of British medical graduates.[32]

Presenteeism (working through illness or injury) was assessed using a single statement ‘there were occasions when I think I should have taken time off for illness but did not do so’ to which respondents responded with a 5-point Likert scale (strongly agree to strongly disagree). This measure has been similarly used in a population of US resident physicians.[33]

Work–life balance reflects satisfaction and good functioning at work and at home with a minimum of role conflict[35] and was assessed with a single item ‘my work schedule leaves me enough time for my family/personal life’ on a 5-point Likert scale (strongly agree to strongly disagree). This measure has been similarly used in a large survey of US physicians.[26]

Work ability measures the degree to which individuals are able to cope physically and mentally with the demands of work.[36] The Work Ability Score) uses a single item from the Work Ability Index[37] ‘how would you rate your current work ability compared with your lifetime best’ with numerical response options on an 11-point scale (0–10), where a score <6 is considered as insufficient work ability.[38] This measure has been similarly used in a survey of Dutch hospital doctors.[34]

Work stress was assessed using the ERI Questionnaire (ERI; 16-items; 4-point Likert scale) on three dimensions: effort (3 items, score: 3–12), reward (7 items, score: 7–28) and overcommitment (6 items, score: 6–24) perceived in one’s professional role.[39] The effort–reward (ER) ratio is computed by dividing the score in effort by score in reward,

when corrected for the unequal items of effort and reward. An ER value (range 0–4) close to 0 indicates a favourable situation (relatively low effort, relatively high reward), a value of 1 indicates effort–reward balance while values beyond 1 indicate a critical condition of high effort spent that is not met by the rewards received or expected. High ERI is strongly associated with an increased risk of mental health disorders and with poor self-rated health.[8 9 39 40] The percentage of the population in whom effort was not balanced by reward was calculated to determine a crude estimate of the prevalence of occupational stress, although the cut-off for ER does not represent a clinically validated threshold.[39 41]

Burn-out was assessed by the Maslach Burnout Inventory (MBI) and was defined by a high level of EE (EE; the feeling of being emotionally exhausted and overwhelmed by work) combined with either a high level of DP (DP; the loss of empathy and the emergence of cynicism in one's care for others) or a low level of PA (PA; feeling of competence in one's work with people).[21] The 'EE +1 rule' has been suggested as the most effective way of identifying burn-out, that is, scoring high scores on both EE and DP or high scores in EE combined with low scores on PA.[42] The MBI is considered to be the gold standard for measurement of burn-out and has been widely used internationally in studies of doctors.[24–28]

In our sample, the internal consistency was satisfactory for all scales (Cronbach's α=0.72–0.83).

Statistical analyses

All the analyses were performed using commercially available statistical software (SPSS V.21.0: IBM SPSS for Windows). Descriptive analyses were performed initially and categorical group differences between consultant, HST and BST groups were tested using X^2. Mean differences for continuous variables (eg, EE) were tested using a one-way analysis of variance (ANOVA), adjusting for age and sex. Differences across work-related factors in those meeting criteria for burn-out and those who did not were analysed using t-tests. Factors associated with meeting the criteria for burn-out (binary) were included in a bivariate logistic regression model, with the burn-out (binary) set as the dependent variable and age, sex, grade, years of practice, work load, work ability, work–life balance, current desire to practise medicine, ERI and overcommitment as independent variables. Bivariate correlation was performed to analyse the association of the independent variables.

Patient and public involvement

This study explored workplace well-being in doctors. While no patients or public representatives were involved in the study design, the study was overseen by a stakeholder group with medical representatives from various specialties and grades.

RESULTS

In total, 1749 physicians participated in the study (response rate=55%, range 33%–63% between specialties). The respondents mainly held Irish nationality (85%) and though there was no sex preponderance overall, consultants were predominantly male (61%) and trainees predominantly female (table 1).

Work ability

The mean level of work ability for the respondents as a whole was 6.5 (SD=2.0) and a one-way ANOVA showed no significant difference in the mean level of work ability between grades (F(2,1734)=0.437, p=0.646). Overall, 29.2% of respondents indicated an insufficient level of work ability (table 1).

Presenteeism

Overall, 78% of the study population indicated that they had engaged in presenteeism. A one-way ANOVA revealed significant differences between the groups (F(2,1737)=6.22, p=0.002) with consultants (75.6%) reporting significantly lower levels of presenteeism than HSTs (80.8%) or BSTs (80.9%) (table 1).

Work–life balance

When asked if their work situation left them enough time for their family/personal life, only one in five doctors felt this was the case (22.2%) while three in five (59.7%) disagreed with the assertion. A one-way ANOVA revealed significant differences between the groups with consultants indicating significantly higher work–life balance (28.3%) compared with HSTs (13.9%) and BSTs (16.5%) (F(2,1739)=32.6, p<0.001) (table 1).

Desire to practise

When asked to rate their desire to practise medicine, 70.6% of doctors described it as strong or very strong. Consultants were more likely to rate their desire to practise positively (73%) than both HSTs (71.4%) and BSTs (63.4%). The difference was significant between consultants and BSTs (F(2,1737)=9.17, p<0.001) (table 1).

Work stress (ERI)

The mean score for effort (ERI) for the whole group was 9.9 (SD=2.0), with significant differences between grades (F=21.98, p<0.001), and scores highest for consultants and lowest for BSTs (table 2).

The mean score for reward for the group was 17.4 (SD=3.9), with significant differences between grades (F=30.9, p<0.001) and highest scores for consultants and lowest for HSTs (table 2).

The mean score for overcommitment for the group was 15.7 (SD=3.5) and there was no difference between the grades on this measure (F=2.87, p=0.57) (table 2).

The effort of work was not balanced by the rewards of work as evidenced by an ER ratio in the overall sample of 1.4 (SD=0.6). A one-way ANOVA revealed significant differences between the grades (F(2,1597)=9.07, p<0.001), with ERI being higher for HSTs than for BSTs or consultants (table 2). ERI (occupational stress) was evident in 81.9% of respondents (table 2).

Table 1 Sociodemographic, work and workplace well-being (single item) data compared by grade using one-way ANOVA

	Consultants		HST		BST		Total		
	n/AM	%/SD	n/AM	%/SD	n/AM	%/SD	n/AM	%/SD	(F) p value
Sex									
Male	574	60.4%	178	21%	130	34.7%	882	50.4%	
Female	375	39.5%	245	57.8%	244	65.1%	864	49.4%	
Age									
30 and under			82	19.3%	267	71.2%	349	20%	
31–40	114	12%	318	75%	97	25.9%	529	30.2%	
41–50	440	46.3%	20	4.7%	9	2.4%	469	26.8%	
51 and over	389	40.9%	2	0.5%			391	22.4%	
Work load									
Mean	54.17	15.09	61.08	15.47	59.63	13.02	57	7.74	F=38.4***
Years of practice									
Mean	12.11	7.26	3.31	1.96	1.69	.86	15.08	7.26	F=665.27***
Work Ability Score									
Insufficient	267	28.1%	126	29.7%	118	31.5%	511	29.2%	
Sufficient	683	71.9%	298	70.3%	257	68.5%	1238	70.8%	
Mean	6.5	2.1	6.4	2.1	6.4	2.0	6.5	2.0	F=0.44^{NS}
Presenteeism									
Strongly agree	342	36.2%	200	47.4%	151	40.6%	693	39.8%	
Agree	373	39.4%	141	33.4%	150	40.3%	664	38.2%	
Neutral	70	7.4%	24	5.7%	23	6.2%	117	6.7%	
Disagree	118	12.5%	44	10.4%	37	9.9%	199	11.4%	
Strongly disagree	43	4.5%	13	3.1%	11	3%	67	3.9%	
Mean	2.1	1.16	1.88	1.10	1.94	1.06	2.01	1.13	F=6.22**
Work–life balance									
Strongly disagree	147	15.6%	122	28.8%	78	20.9%	347	19.8%	
Disagree	353	37.4%	180	42.5%	164	43.9%	697	39.9%	
Neutral	177	18.8%	63	14.9%	70	18.7%	310	17.7%	
Agree	237	25.1%	54	12.7%	57	15.2%	348	19.9%	
Strongly agree	30	3.2%	5	1.2%	5	1.3%	40	2.3%	
Mean	2.63	1.11	2.15	1.02	2.32	1.01	2.45	1.09	F=32.49***
Desire to practise medicine									
Very strong	260	27.4%	101	23.8%	78	20.8%	439	25.2%	
Strong	430	45.3%	201	47.4%	158	42.1%	789	45.3%	
Lukewarm	197	20.7%	89	21%	98	26.1%	384	22.1%	
Weak	41	4.3%	14	3.3%	14	3.7%	69	4%	
Regret	17	1.8%	18	4.2%	24	6.4%	59	3.4%	
Mean	2.07	0.9	2.17	0.97	2.32	1.05	2.15	0.96	F=9.17***

**P≤0.01, ***P≤0.001.
AM, arithmetical mean; ANOVA, analysis of variance; BST, Basic Specialist Training; HST, Higher Specialist Training; NS, not significant.

Burn-out

Over half of the respondents had high EE (52.3%) and this was more prevalent in BSTs (61%) and less prevalent in consultants (45.7%) (χ^2=49.07, p<0.001). The ANOVA confirmed significant differences in mean EE score between the grades (F(2,1676)=19.59, p<0.001) (table 2).

High DP was reported in 28.6% of the sample, and this was more prevalent in BSTs (43.3%) and less prevalent in consultants (18.3%) (χ^2=128.07, p<0.001). The ANOVA confirmed significant differences in DP score between the grades (F(2,1680)=73.57, p<0.001) (table 2).

Table 2 Workplace well-being scales (Effort–Reward Imbalance (ERI), Maslach Burnout Inventory (MBI)) compared by grade using one-way ANOVA/Pearson's χ^2

	Consultants		Higher Specialist Trainees		Basic Specialist Trainees		Total		χ^2 (F) p value
	n/AM	%/SD	n/AM	%/SD	n/AM	%/SD	n/AM	%/SD	
ERI									
Effort mean	10.1	2.0	9.8	1.9	9.3	1.9	9.9	2.0	21.98***
Reward mean	18.0	3.7	16.3	3.9	17.0	3.8	17.4	3.9	30.87***
Overcommitment mean	15.8	3.8	16.2	3.5	15.7	3.5	15.7	3.5	2.87^{NS}
ERI ratio	1.4	0.5	1.5	0.6	1.4	0.5	1.4	0.6	F=9.07***
High work stress	787	82.8%	355	83.7%	288	76.7%	1430	81.8%	7.76*
MBI									
Emotional exhaustion (EE)									
Low	212	23.5%	52	12.6%	40	11.0%	304	18.1%	
Moderate	278	30.8%	117	28.3%	102	28.0%	497	29.6%	
High	412	45.7%	244	59.1%	222	61.0%	878	52.3%	49.1***
Mean	25.5	11.7	28.5	10.3	29.3	10.2	27.1	11.0	19.6***
Depersonalisation									
Low	479	53.0%	145	34.9%	95	26.0%	719	42.7%	
Moderate	259	28.7%	111	26.7%	112	30.7%	482	28.6%	
High	165	18.3%	159	38.3%	158	43.3%	482	28.6%	128.1***
Mean	7.4	5.7	10.6	7.0	11.6	6.7	9.1	6.5	73.6***
Personal accomplishment									
Low	215	24.7%	143	35.9%	140	38.4%	498	30.5%	44.2***
Moderate	303	34.9%	141	35.4%	135	37%	579	35.5%	
High	351	40.4%	114	28.6%	90	24.7%	555	34%	
Mean	36.1	7.1	33.9	7.7	33.3	7.0	34.9	7.3	24.03***
Burn-out (EE +1)									
	2199	21%	163	38.4%	156	41.8%	518	29.7%	76.47***

*P≤0.05; ***P≤0.001.
AM, arithmetical mean; ANOVA, analysis of variance; NS, not significant.

Low PA was reported in 30.5% of the sample. A higher proportion of BSTs expressed low levels of PA (38.4%) than consultants (24.7%) or HSTs (35.9%) (χ^2=44.16, p<0.001). The ANOVA confirmed significant differences in PA score between the grades (F(2,1629)=24.03, p<0.001) (table 2).

Using the aforementioned EE +1 rule, the overall level of burn-out in this population was 29.7% with significant between-grade differences highlighting a lower prevalence of burn-out in consultants (21.4%) than in HSTs (38.4%) and BSTs (41.8%) (χ^2=38.59, p<0.001) (table 2).

Factors associated with burn-out

Bivariate correlation showed weak to medium correlation between independent variables. When analysing factors associated with criteria for burn-out, male sex, younger age, lower years of practice, lower desire to practise, lower work ability, higher ERI ratio and greater overcommitment were significantly associated with burn-out. For consultants, male sex, lower years of practice, lower desire to practise, lower work ability, higher ERI ratio and overcommitment were significantly associated with burn-out, while for HSTs, older age, lower years of practice, lower desire to practice, lower work–ability, higher presenteeism and overcommitment were significantly associated with burn-out. For BSTs, younger age, lower desire to practise, lower work-ability, and overcommitment were significantly associated with burn-out (table 3).

DISCUSSION

This national survey of hospital doctors working within a single healthcare system set out to measure levels of workplace well-being across grades by assessing occupational stress, burn-out, presenteeism, work–life balance, work ability and desire to practise in a group already shown to have high levels of psychological distress.[31]

Table 3 Factors associated with burn-out (binary logistic regression)

	All		Consultants		HST		BST	
	Wald	Exp(B) (95% CI)	Wald	Exp(B) (95% CI)	Wald	Exp(B) (95% CI)	Wald	Exp(B) (95% CI)
Sex								
Male	11.44***	1.64 (1.23 to 2.18)	8.09**	1.92 (1.22 to 3)	2.45ns	1.56 (0.89 to 2.72)	2.32ns	1.56 (0.88 to 2.74)
Age group (Ref. Cat: 31–40 years)	26.99***		1.52ns		5.77ns		14.09***	
30 and under	19.4***	2.25 (1.57 to 3.22)			0.29ns	1.21 (0.61 to 2.41)	14.09***	3.69 (1.87 to 7.28)
41–50	2.55ns	0.71 (0.46 to 1.08)	1.42ns	1.54 (0.76 to 3.14)	5.4*	0.12 (0.02 to 0.72)		
51 and over	0.73ns	0.73 (0.35 to 1.51)	0.56ns	1.45 (0.55 to 3.82)				
Years of practice	6.04*	0.95 (0.91 to 0.99)	5.25*	0.94 (0.9 to 0.99)	4.99*	0.85 (0.73 to 0.98)	0.24ns	0.92 (0.67 to 1.27)
Work load	0.03ns	1 (0.99 to 1.01)	0.03ns	1 (0.99 to 1.01)	0.23ns	1 (0.98 to 1.02)	0.09ns	1 (0.98 to 1.03)
Desire to practise	60.02***	1.85 (1.59 to 2.17)	26.10***	1.86 (1.46 to 2.35)	28.83***	2.56 (1.82 to 3.6)	8.87**	1.54 (1.16 to 2.04)
Work–life balance	0.25ns	0.96 (0.82 to 1.12)	0ns	1 (0.8 to 1.25)	0.35ns	0.91 (0.66 to 1.25)	0.01ns	0.98(0.72 to 1.35)
Work ability	24.84***	0.83 (0.76 to 0.89)	15.22***	0.81 (0.73 to 0.9)	4.62*	0.85 (0.73 to 0.99)	6.39*	0.81 (0.698 to 0.95)
Presenteeism	3.38ns	0.88 (0.76 to 1.01)	1.41ns	0.88 (0.71 to 1.09)	7.46**	0.67 (0.51 to 0.9)	0.6ns	1.11 (0.85 to 1.46)
ERI ratio (ERI)	7.72**	1.49 (1.12 to 1.97)	7.12*	1.83 (1.17 to 2.84)	0.67ns	1.23 (0.75 to 2.01)	2.04ns	1.55 (0.85 to 2.82)
Overcommitment (ERI)	63.62***	1.22 (1.16 to 1.28)	23.37***	1.19(1.11 to 1.28)	22.18***	1.27 (1.15 to 1.41)	17.95***	1.23 (1.12 to 1.36)
Constant	38.31***	0.01	21.62***	0.01	7.83**	0.02	12.03***	0.01
Nagelkerke R Square		40.2%		36.4%		44%		38.8%

*P≤0.05, **P≤0.01, ***P≤0.001.
BST, Basic Specialist Training; ERI, Effort Reward Imbalance; HST, Higher Specialist Training; ns, not significant.

Occupational stress was reported by four out of five respondents (82%), indicating that the perceived rewards for the group and especially for the HSTs fall well short of the effort exerted. While consultants reported highest levels of effort, rewards were also highest for this group. At the time of the survey, the majority of the consultants were employed on a contract which had been in existence since 1998, with a new, less favourable, contract introduced for new recruits in 2012,[43] 2 years before this study. It remains to be seen whether these changes affect the perceived reward in the group, as the contract did not just have an impact on pay, but also curtailed the rights to engage in private practice, thus affecting autonomy.[17] To date, there are few studies reported on doctors that have used the ERI, so there is little opportunity for comparison. Thus, the present study is a novel contribution to the literature. However, one German study of surgeons found that 25.1% of respondents reported occupational stress, a stark contrast to the 81.9%% in this study.[41]

The levels of burn-out in our population, using the conservative methodology described above for its calculation, were also high, evident in nearly one-third of respondents and particularly high in trainees. With the limitations in comparability with studies of burn-out elsewhere, comparison of levels of EE may be more meaningful. Over 50% of our population had high levels of EE, which is higher than in hospital doctors from the UK, the USA and Australia.[23–28] In our sample, burn-out (EE +1) was significantly associated with male sex, lower years of practice, lower desire to practise, lower work ability, higher ERI ratio and overcommitment, but not with workload. In spite of the high prevalence of burn-out and work stress, over two-thirds of doctors expressed desire to continue in their medical career. However, the desire to practise was rated lower than that reported in British doctors where 81% reported a strong or very strong desire to practise medicine.[32]

In our sample, trainees reported working significantly more hours than their consultant colleagues which may help to explain the higher prevalence of both occupational stress and burn-out in trainees, in line with the literature.[31] However, this was not confirmed in the binary analysis in our study. While there is no firm evidence that long hours correlate with poor mental health,[44] work hours were previously found to be associated with poor personal well-being in this population[31] suggesting further exploration of the impact of long hours on personal well-being and occupational stress is needed.

It is however possible that high workload contributed to reduced work ability, which is associated with reduced job performance,[45] increased risk of long-term sick leave and early retirement.[46] The prevalence of insufficient work ability in our sample was seven times greater (29%) than in a Dutch study where only 4% of doctors rated their work ability as insufficient.[34] While caution is advised in comparing our results with that much smaller study (n=423), our findings suggest that the working conditions of hospital doctors in Ireland are less favourable than in the Netherlands.

Presenteeism was prevalent in over 75% of all doctors and was significantly associated with burn-out, in line with a comparable Norwegian study which reported 80% prevalence of presenteeism.[47] A somewhat lower prevalence of presenteeism was reported in a study of US residents with senior residents reporting 62% and junior residents 52% prevalence.[33] The high levels of presenteeism are perhaps not surprising in an occupational group who, uniquely, in Ireland, are imbued with the responsibility to secure 'cover' for absence, even in the context of acute illness. Indeed, the US study suggests that some of the reasons for presenteeism include misplaced dedication, reluctance to let down the team and resource issues such as lack of adequate cover due to staff shortages, all of which are evident in Irish healthcare.

This is perhaps further reflected in the poor work–life balance in our sample, with only one in five (22%) having enough time for family/personal life. Even consultants' 28% prevalence of work–life balance, which was significantly higher than trainees', compares unfavourably with a concurrent US study in which 41%–48.5% of doctors reported satisfactory work–life balance.[26 27 48] While the aim of this study was to provide an overview of workplace well-being of doctors in Ireland, a further analysis of the individual factors and their interplay is needed.

There has been a recent shift in the focus of research away from simply measuring burn-out prevalence to determining what interventions may be effective. It is clear from recent research that while interventions focusing on the doctor as an individual can be helpful, those interventions which are focused on the organisation are much more effective.[49 50] Indeed, the findings of this study seem to indicate the need critically to review the working conditions of hospital doctors in Ireland. Surprisingly, in a milieu where evidence is the key driver of patient treatment, the evidence on the relationship between workplace psychosocial environment and employee health is paid little attention by those who fund and manage healthcare organisations. It is buried under the constant refrain of 'putting the patient first' with little regard for those who are instrumental in providing care.

Strengths and limitations

As previously reported,[31] this study is the first national survey conducted on a cohort of hospital doctors working within the same health system in Ireland. The results can be taken as largely representative as all but one hospital specialty (radiology) are included. The 55% response rate would be considered high in this population where response rates tend to be low and are declining.[51] Those working in EM are over-represented (response rate 63%) which may reflect their high levels of stress and consequent willingness to participate in order to have their voice heard. Moreover, response rates tend to be lower when questionnaires are long and deal with sensitive topics.[52]

The use of single items for measuring presenteeism, work–life balance, work ability and desire to practise also allows for comparison with international studies although the number of studies using these instruments in doctors is small. The use of the ERI, which posits that work effort is spent as part of a social contract, reciprocated by obtaining adequate reward, with imbalance between high effort and low reward indicating adverse work conditions, (which in some people can be exacerbated by overcommitment) make it particularly appropriate to measuring occupational stress in the healthcare sector.[53] The use of the MBI allows for comparison of burn-out with previous studies of the profession.

The observation of highly significant differences between consultants and trainees across almost all measures is a novel aspect of this study and will be helpful in guiding employers and postgraduate training bodies towards possible areas for future intervention.

We note that with the numerous measures used the respondent burden may have affected response rate. It may also be that with several measures used some of the findings reported are spurious, due to not only the fact that the study was not initially powered for the outcomes reported in this paper, but also as we have conducted multiple statistical tests. We are also aware of the recent publications citing higher prevalence of distress and burn-out and that the use of multiple measures poses a challenge for estimation of power calculations for each one of them. However, considering the response rate of 55% and the ±5% margin of error for each outcome, we believe our findings are representative of the population.

On the other hand, all of the instruments we used solicited self-reports, a methodology which generates subjective views which may be subject to recall bias. The cross-sectional design of the study prevents us from determining the causality or directions of the observed associations. In our sample, the percentage of respondents holding Irish nationality was higher than the number of Irish graduates working in hospitals in a contemporaneous report. This may well reflect the fact that Irish nationals are more likely than their non-Irish colleagues to secure competitive consultant and training posts as we did not survey those in non-training service posts or locums.[31] Arguably, were these groups to be included, the prevalence of all negative workplace well-being measures might well be higher, as they deal with the same demands as their colleagues but with even less support. Nor did we survey interns, the most junior of trainee doctors in the Irish healthcare system, who have been shown to have high levels of EE.[54]

Implications

These negative indicators of workplace well-being in hospital doctors, while a cause for concern, are perhaps unsurprising considering the timing of this study, which followed several years of cutbacks in the Irish public sector. The reported prevalences of occupational stress and burn-out are likely to have contributed already to the wave of emigration among highly trained young doctors.

For those who have stayed at home these findings serve as a reminder that medicine, always a challenging profession, is currently in distress. If the status quo is maintained, one in three doctors is likely to experience burn-out and four out of five may experience occupational stress. If nearly one-third continue to experience insufficient work ability, then many of those who do remain may well retire early or worse, develop health problems, forcing them to leave service prematurely. This would represent a significant loss for the Irish state, not only in fiscal terms, when considering the high cost of medical training. More importantly, it likely contributes to intolerable vacancy rates at consultant level and creates increasing pressure within the system and on their multidisciplinary team colleagues with whom they provide care. Given their association with burn-out in our population, it may be worth tracking these simple measures in order to identify target areas for future intervention.

Improving the quality of patient care and reducing the frequency of adverse events are justifiably garnering the attention of researchers and funders, but a growing body of evidence is linking these to physician burn-out. As a society, we must ask ourselves what kind of doctors we want to care for us and whether it is acceptable to continue to expect them to perform well within a system which demands so much but provides so little support. Bringing the focus to evidence-based interventions to improve working conditions will not only enhance the well-being of doctors but will likely have the added benefit of improving patient outcomes. It must be addressed urgently if we are serious about improving the quality of patient care.

CONCLUSION

Hospital doctors in Ireland have higher levels of burn-out measures than their international peers. Across all grades, burn-out was associated with male sex, lower desire to practice and high level of overcommitment. Occupational stress, work ability, presenteeism and work–life balance were variably associated with burn-out across grades. Levels of occupational stress were high with effort outweighing reward. One-third had insufficient work ability and their work–life balance was unfavourable when compared with doctors in the USA, as were levels of presenteeism. Further research is needed on the degree of interplay between individual factors and workplace well-being. Levels of burn-out and other measures of workplace well-being should be monitored as a quality indicator in healthcare with a view to determining whether specific interventions have had a positive impact on their prevalence. Such evidence should inform work–force planning and retention policies to address current service gaps and improve the working lives of all those who provide clinical care.

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Data sharing statement As per the ethics approval, the data will not be shared outside of the participating research institutions. Any sharing of the data beyond the group will be subject to review by the host institution (Royal College of Physicians of Ireland) and to independent research ethics application. Any queries on how to access the dataset should be directed to research@rcpi.ie.

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