

Bullying in the Australian medical workforce: cross-sectional data from an Australian e-Cohort study

Deborah A. Askew^{1,6} PhD, Senior Research Fellow

Philip J. Schluter² PhD, Professor

Marie-Louise Dick¹ MPH, MBBS, Associate Professor

Patricia M. Régo³ MHIthSci, Associate Lecturer

Catherine Turner⁴ PhD, Professor and Head of School

David Wilkinson⁵ PhD, MBBS, Professor and Head of School

¹Discipline of General Practice, University of Queensland, Herston, QLD 4072, Australia.

Email: m.dick@uq.edu.au

²Department of Public Health and General Practice, University of Otago, Oxford Terrace, Christchurch 8140, New Zealand. Email: Philip.schluter@otago.ac.nz

³Discipline of Medical Education, The University of Queensland, Herston, QLD 4072, Australia.

Email: p.rego@uq.edu.au

⁴School of Nursing and Midwifery, The University of Queensland, Herston, QLD 4072, Australia.

Email: c.turner@uq.edu.au

⁵School of Medicine, The University of Queensland, Herston, QLD 4072, Australia.

Email: d.wilkinson@uq.edu.au

⁶Corresponding author. Email: d.askew@uq.edu.au

Abstract

Objective. This study aimed to describe the prevalence of perceived workplace bullying in the Australian medical workforce, and investigate the relationship between workplace bullying and job satisfaction, health status, and current and planned medical workforce participation.

Methods. An electronic cross-sectional survey of doctors currently in the paid workforce, conducted between April 2008 and October 2009, was nested within a longitudinal cohort study investigating factors affecting the recruitment and retention of the Australian medical workforce. To address the specific aims of this study, a subset of questions in the survey investigated the prevalence of self-reported bullying; physical and mental health; workforce participation patterns; job satisfaction; and job stressors.

Results. Seven hundred and forty-seven participants responded to the bullying question and were included in this analysis. Twenty-five percent of participants reported being bullied in the last 12 months. There were no differences in the reported rates of bullying across age groups, sex and country of medical qualification. Bullied doctors were least satisfied with their jobs ($P < 0.001$), had taken more sick leave in the last 12 months ($P < 0.001$), and were more likely to be planning to decrease the number of hours worked in medicine in the next 12 months ($P = 0.01$) or ceasing direct patient care in the next 5 years (independent of their age or the number of hours currently worked in patient care) ($P = 0.006$).

Conclusions. Our findings suggest that Australian doctors, independent of age or sex, have experienced workplace bullying, and although no conclusions can be made about causal pathways, there were strong associations between this exposure and poorer health and wellbeing, and on remaining in the medical workforce.

What is known about the topic? Bullying and harassment have a significant impact on mental health, job satisfaction, and intention to leave the workforce. Workplace bullying in healthcare organisations affects the individuals involved, the organisations and the patients. The prevalence of workplace bullying throughout the medical workforce in Australia or elsewhere has not been investigated, with previous studies focussing on subsets of doctors, particularly junior doctors.

What does this paper add? This paper found that 25% of doctors participating in this study reported experiencing persistent behaviours in the last 12 months that had undermined their professional confidence or self-esteem. There were no differences in the prevalence of bullying observed between sexes, age groups, country of medical qualifications, or employment sector. Victims of bullying had poorer mental health, had taken more sick leave in the last 12 months, were less

satisfied with their current jobs and with being doctors, were more affected by job stressors and were more likely to be considering ceasing direct patient care than non-bullied doctors.

What are the implications for practitioners? Practitioners need to be alert for potential bullying and harassment within healthcare organisations and be prepared to act decisively to minimise its impact on staff health, satisfaction and retention, and patient quality of care.

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Introduction

The World Health Organisation (WHO) recognises that the supply and retention of an appropriately prepared, deployed and supported health workforce is a critical global issue.¹ Significant resources are invested into training the health workforce, therefore, it is important to understand and address factors that negatively affect the retention of trained personnel.¹ The Doctors' electronic-Cohort (DeC) Study was established in 2008 to increase understanding about the factors associated with the recruitment and retention of the Australian medical workforce.

Workplace psychosocial factors such as stress, harassment and bullying have a significant impact on mental health, job satisfaction, and intention to leave the workforce.² Although there is no single, universal definition of workplace bullying, it is generally accepted to be repeated systematic, interpersonal abusive behaviours that negatively affect the targeted individual.³ It is the impact of the bullying behaviour on the victim that is central to the concept of bullying, rendering the intentions of the perpetrator largely irrelevant.³⁻⁵

Workplace bullying in healthcare organisations affects the individuals involved, the organisations and the patients.^{3,6-8} Victims of workplace bullying suffer more psychological distress, greater dissatisfaction with work and life, and are more likely to quit work.^{3,6,7} At the organisational level, workplace bullying negatively affects staff performance, quality of care and patient satisfaction.^{3,6} The prevalence of workplace bullying throughout the medical workforce in Australia or elsewhere has not been investigated, with previous studies focussing on subsets of doctors, particularly junior doctors.^{2,3,9-17} We report here on cross-sectional data gathered through the DeC Study on the prevalence and potential impact of bullying in the Australian medical workforce.

Methods

DeC Study participants

The DeC Study was open for participation to all doctors registered with the Australian Medical Registration Board and all medical students attending an Australian university. This nested cross-sectional study focussed on doctors currently in paid work.

Study design and procedures

The current study was a cross-sectional analysis of data collected through the first measurement wave of the DeC study.

The DeC Study design mirrored the Nurses and Midwives e-Cohort Study (NMeS), taking advantage of the methodological and practical advances made by that study. Details of the NMeS have been reported elsewhere.¹⁸⁻²⁰

Briefly, the DeC Study aimed to be a 5-year cohort study using a purpose-built internet-based survey (see <http://doctors.e-cohort.net>). Potential participants entered the study website and reviewed information about the study. Following provision of informed consent, participants were automatically directed to the study registration page, where they established a personal profile (username and password) and recorded baseline demographic and contact details. Once registered, participants could access the baseline survey which consisted of up to 120 questions and took between 20 and 40 min to complete. Data were entered on a question-by-question basis so that entered data were saved if a participant suspended the survey or lost their internet connection. At the next login, participants were automatically re-directed to the last question they completed. Participants were unable to peruse the survey questions before commencing it, and were unable to go back to previously answered or unanswered questions.

Regular electronic contact was maintained with participants: a welcome message within 2 weeks of registering; birthday cards; and regular newsletters about progress of the study. Emailed reminders were sent at 2 and 6 weeks after registration to participants who had not completed the survey. Prior to the close of the baseline measurement wave, participants with incomplete surveys were sent additional individualised requests to complete the survey via email and, depending on the available contact details, via mobile phones or personalised letters.

Recruitment

A mix of direct and indirect recruitment strategies were used. Direct recruitment strategies were used when we had contact details of potential participants or when other organisations contacted their members on our behalf. They included: inclusion of a hard-copy invitation with the Queensland Medical Board's annual registration renewal notice; postcards mailed to all doctors registered in New South Wales and the Australian Capital Territory; email or hard-copy invitations sent to The University of Queensland School of Medicine Alumni members; email invitations sent to all members of the Royal Australian College of General Practitioners (RACGP); and through personal networks. Indirect recruitment strategies included: conference presentations; advertisements and advertorials in print or electronic newsletters of several Medical Colleges, Divisions of General Practice, relevant professional organisations (e.g. Australian Association for Academic Primary Care) and State Government health departments; and promotional materials inserted into conference satchels.

Registration for the DeC Study was open from 24 April 2008 to 30 June 2009. Participants had until 31 October 2009 to complete the baseline survey.

Questionnaire

The questionnaire contained a mix of standardised instruments and instruments adapted purposefully to address the aims of this study. During the development of the survey, feedback was obtained from academic and service doctors to ensure content and face validity, and pilot testing was conducted to ensure data system robustness and integrity, and to maximise the user friendliness of the web-based questionnaire.

Exposure to bullying was assessed by asking participants to respond in the positive or negative to the following question: 'In the last 12 months, have you been subjected to persistent behaviour by others which has eroded your professional confidence or self esteem?'.² Participants answering 'yes' to this question were then asked to indicate the main source of the undermining, bullying, or harassing behaviours; if they had complained about the bullying; and the main reason for not complaining if they had not done so.

All participants were asked about their current level of medical workforce participation, their field of medicine, workplace setting, employment sector, and absenteeism over the last 12 months for annual leave or illness (their own or others). Participants were asked if they intended to change the number of hours they worked in medicine in the next 12 months (increase, decrease or no change), if they were intending to cease direct patient care in the next 5 years, and the age at which they intended to retire. Questions from the Canadian Physicians Health Study²¹ assessed job satisfaction and an established job stressor questionnaire was used to assess levels and sources of job-stress.²² Current health status was assessed using the SF-36 (version 2).²³ A variety of demographic characteristics, including age, sex, marital status, number of children, year and country of medical qualification, and country of birth were also collected.

Data storage and security

Participants entered their data directly into a structured query language (SQL) database, via the electronic survey. The Study's website was secured with a Secure Sockets Layer (SSL), which is an encrypted protocol for transmitting private documents via the internet. SSL creates a connection between client and server, through which data can be sent securely. All participants had a unique ID generated automatically at registration.¹⁸⁻²⁰

Data processing and statistical analysis

Data were copied from the SQL database into SAS[®] software, Version 9.2 (SAS Institute Inc., Cary, NC, USA) where data cleaning was undertaken. Participants were not personally identified in analysis datasets; all datasets included the participant ID only. As the answering of each question was voluntary, the overall number of responses varied for each question. Therefore, when summary statistics were computed and reported, the number of valid responses to each question was also provided. Characteristics of participants were compared with national medical workforce data where possible.²⁴ Means between groups were compared using Student's *t*-test and categories compared using Fisher's exact test. All analyses were undertaken using SAS[®] software and a significance level of 5% was used.

Ethics

The DeC Study was granted ethical approval by The University of Queensland's Behavioural and Social Science Ethics Review Committee (2007000349).

Results

A total of 1817 individuals registered for the DeC Study. Of these, 866 were medical students, 151 failed to commence the survey, and 800 were registered doctors representing a response rate of around 1.2% of registered doctors (Australian medical workforce estimated to be 67 208 in 2007²⁴). Of the 764 doctors currently in paid work, 747 completed the bullying component of the DeC Study questionnaire and are included in this analysis.

Medical labour force

Table 1 compares the demographic characteristics of our study sample with the Australian medical workforce.²⁴ Our respondents appear representative of the national medical workforce with respect to age, number of hours worked, and country of medical qualification, but not with respect to sex and State or Territory of principal place of work.

Workplace characteristics

Twenty-seven doctors were interns, 549 were specialists (including general practitioners (GPs)) or specialist registrars and 188 were neither interns nor specialists. No further information about the job classification of these 188 doctors is available, and we therefore refer to them as 'undifferentiated doctors'. Nearly one-third of participating doctors were GPs (31%). Most doctors worked in either a hospital (58%) or a general practice (38%), with half working in the public sector and 30% working in the private, for-profit sector (Table 2).

Bullying

Twenty-five percent of respondents (186/747) reported having been bullied in the last 12 months (Table 3). There were no differences in the prevalence of bullying observed between sexes, age groups, job classifications (interns, specialists (or specialist registrars), or undifferentiated doctors), country of medical qualification, or employment sector.

Consultants, registrars and other senior doctors were the most commonly reported source of the bullying (44%) for all respondents, followed by managers, administrators and clerical staff (27%). There were no differences in the reported source of the bullying between doctors in the different job classifications ($P=0.43$), although compared with the other respondents, the undifferentiated doctors were more likely to report being bullied by patients. Respondents were also able to provide free-text responses describing the source of the bullying, and several respondents cited governmental agencies and specialist colleges.

No formal or informal complaint had been made by 58 respondents (31%), mainly because they considered it insufficiently serious or had dealt with it themselves. Undifferentiated doctors were more likely to have not complained because they were afraid of the consequences (Table 3). Of the 128 doctors (69%) who had made either an informal or formal complaint, 24% (31) were satisfied with the outcome of their complaint.

Table 1. Descriptive demographics of registered doctors participating in the e-Cohort Study ($n=764$), compared with national medical workforce ($n=67\,208$)²⁴

	e-Cohort doctors		National workforce	
	<i>n</i>	(%)	<i>n</i>	(%)
Sex				
Female	408	(53)	22 827	(34)
Male	356	(47)	44 381	(66)
Age (years)				
<35	217	(28)	14 964	(22)
35–44	203	(27)	18 028	(27)
45–54	209	(27)	17 034	(25)
55–64	111	(15)	11 257	(17)
65–74	21	(3)	4 381	(7)
≥75	3	(0)	1 543	(2)
State or Territory of principal place of work^A				
New South Wales	276	(37)	21 024	(29)
Victoria	91	(12)	17 016	(24)
Queensland	239	(32)	12 204	(17)
Western Australia	44	(6)	7 713	(11)
South Australian	36	(5)	5 317	(7)
Tasmania	19	(3)	1 540	(2)
Australian Capital Territory	27	(4)	1 442	(2)
Northern Territory	18	(2)	898	(1)
Country of medical qualification^B				
Australia	611	(81)	50 895	(76)
United Kingdom/Ireland	50	(7)	3 869	(6)
New Zealand	32	(4)	2 106	(3)
India	15	(2)	–	–
South Africa	11	(1)	–	–
Elsewhere	39	(5)	9 698	(15)
Working hours^C				
<20	65	(9)	4 985	(8)
20–34	139	(18)	9 915	(16)
35–49	321	(42)	25 929	(41)
50–64	184	(24)	17 939	(28)
≥ 65	47	(6)	4 790	(8)

^A14 observations missing from e-Cohort Study.

^BSix observations missing from e-Cohort Study and 640 missing from the National workforce data.

^CEight observations missing from e-cohort study and 3650 missing from the National workforce data.

Experience of bullying, workforce participation and health indicators

Workforce participation and health indicators by experience of workplace bullying are presented in Table 4. Victims of bullying had poorer mental health ($P < 0.001$) and had taken more time off work sick ($P < 0.001$) in the preceding 12 months than non-bullied respondents. They were also less satisfied with being doctors ($P < 0.001$), were more likely to be considering decreasing the number of hours they work in medicine in the next 12 months ($P = 0.01$) and ceasing direct patient care within the next 5 years ($P = 0.006$). Furthermore, they had higher levels of workplace stress than non-bullied doctors (Table 5).

Discussion

Bullying is occurring in the Australian medical workforce, with 25% of doctors in this study having experienced persistent

Table 2. Workplace characteristics reported by registered doctors in the e-Cohort Study ($n=764$)

	Female		Male		Total	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Classification of doctor						
Specialist or specialist registrars	296	(73)	253	(71)	549	(72)
Neither specialist nor intern	95	(23)	93	(26)	188	(25)
Interns	17	(4)	10	(3)	27	(4)
Specialist or specialist registrars area of medical specialisation						
General practice	149	(37)	87	(24)	236	(31)
Physician	59	(14)	58	(16)	117	(15)
Emergency medicine	32	(8)	24	(7)	56	(7)
Psychiatry	22	(5)	21	(6)	43	(6)
Anaesthetics	13	(3)	22	(6)	35	(5)
Obstetrics & gynaecology	13	(3)	14	(4)	27	(4)
Surgery	7	(2)	22	(6)	29	(4)
Pathology	9	(2)	12	(3)	21	(3)
Medical administration	11	(3)	8	(2)	19	(2)
Ophthalmology	2	(0)	2	(1)	4	(1)
Radiology	3	(1)	8	(2)	11	(1)
Dermatology	1	(0)	0	(0)	1	(0)
Workplace setting^A						
Hospital	220	(54)	225	(63)	445	(58)
General practice	167	(41)	127	(36)	294	(38)
Education institution	41	(10)	52	(15)	93	(12)
Other specialist doctors' rooms	26	(6)	40	(11)	66	(9)
Community health centre	40	(10)	23	(6)	63	(8)
Government department	21	(5)	20	(6)	41	(5)
Research institution	17	(4)	18	(5)	35	(5)
Day surgery centre	8	(2)	7	(2)	15	(2)
Commercial/industry/business	8	(2)	11	(3)	19	(2)
Defence force facility	4	(1)	5	(1)	9	(1)
Other	44	(11)	26	(7)	70	(9)
Employment sector^B						
Public	204	(51)	175	(49)	379	(50)
Private, for profit	111	(27)	199	(56)	310	(40)
Self-employed	41	(10)	34	(10)	75	(10)
Private, not for profit	29	(7)	9	(3)	38	(5)
Equal parts public and private	19	(5)	17	(5)	36	(5)

^ARespondents can indicate more than one category.

^BSix observations missing.

behaviours in the last 12 months that have undermined their professional confidence or self-esteem. There were no differences in the prevalence of bullying observed between sexes, age groups, country of medical qualifications, or employment sector. Although no conclusions can be made about causal pathways, there were strong associations between reported experiences of bullying and poorer mental health, higher rates of sick leave in the last 12 months, less job and career satisfaction, greater impact of job stressors, and consideration being given to ceasing direct patient care.

The study utilised the internet for survey administration and data collection, thereby increasing the convenience for participants, decreasing costs for the researchers, improving data quality, and enabling rapid analysis and dissemination of findings.²⁵ Much of our questionnaire was developed using existing instruments enabling comparisons with previously-reported research. A major limitation of this study was the low number of participants. However, the embedding of the questions relating to

Table 3. Workplace bullying for doctors in the e-Cohort Study overall and by level of training (n = 747)

	Total		Interns		Specialist or specialist registrars		Undifferentiated doctors		P-value
	n	(%)	n	(%)	n	(%)	n	(%)	
<i>In the last 12 months, have you been subjected to persistent behaviour by others which has eroded your professional confidence or self-esteem?</i>									0.43
Yes	186/747	(25)	7/25	(28)	140/539	(26)	39/183	(21)	
<i>If yes, which of the following is the main source of undermining, bullying or harassing?^A</i>									0.22
Consultants	79	(44)	4	(57)	64	(47)	11	(29)	
Managers	49	(27)	1	(14)	38	(28)	10	(26)	
Patients or their relatives	27	(15)	1	(14)	17	(13)	9	(24)	
Nurses or midwives	8	(4)	1	(14)	4	(3)	3	(8)	
Junior doctors	1	(1)	0	(0)	1	(1)	0	(0)	
Other	16	(16)	0	(0)	11	(8)	5	(13)	
<i>If yes, have you complained to anyone about this, either formally or informally?</i>									0.13
No	58	(31)	0	(0)	43	(31)	15	(38)	
<i>If you have not complained, what is the main reason you have not complained?</i>									0.36
Dealt with it myself	18	(31)	–	–	15	(35)	3	(20)	
Not sufficiently serious	18	(31)	–	–	14	(33)	4	(27)	
Afraid of consequences	9	(16)	–	–	4	(9)	5	(33)	
Not sure how to complain	4	(7)	–	–	3	(7)	1	(7)	
Problem will go away	3	(5)	–	–	2	(5)	1	(7)	
Other	6	(10)	–	–	5	(12)	1	(7)	

^ASix observations missing.

Table 4. Workplace bullying for doctors in the e-Cohort Study by workforce participation and health indicators (n = 747)

	Bullied		Not bullied		P-value
	n	(%)	n	(%)	
<i>SF36 component summary scores</i>	Mean	(95% CI)	Mean	(95% CI)	
Mental health ^A	41.7	(40.0, 43.4)	49.0	(48.2, 49.8)	<0.001
Physical health ^A	52.9	(51.7, 54.1)	54.1	(53.5, 54.6)	0.08
<i>In the last 12 months, how much time have you taken off from your work in medicine as the result of your own illness or injury?^B</i>					<0.001
0 days	63	(34)	269	(48)	
1–5 days	79	(43)	228	(41)	
≥6 days	43	(23)	64	(11)	
<i>On the whole, how satisfied are you with your job?</i>					<0.001
Very satisfied	43	(23)	304	(54)	
Somewhat satisfied	95	(51)	211	(38)	
Somewhat dissatisfied	32	(17)	38	(7)	
Very dissatisfied	16	(9)	8	(1)	
<i>Independent of your present position(s), how satisfied are you being a doctor?</i>					<0.001
Very satisfied	90	(48)	372	(66)	
Somewhat satisfied	59	(32)	154	(27)	
Somewhat dissatisfied	24	(13)	31	(6)	
Very dissatisfied	13	(7)	4	(1)	
<i>Are you considering changing your hours of work in medicine within the next 12 months?^C</i>					0.01
No	109	(59)	390	(70)	
Yes, I plan to increase my hours	17	(9)	53	(9)	
Yes, I plan to decrease my hours	58	(32)	117	(21)	
<i>What is the likelihood that you will cease work involving direct patient care within the next 5 years?^B</i>					0.006
N/A – do not work directly with patients	9	(5)	36	(6)	
None	81	(44)	278	(50)	
Slight	48	(26)	165	(29)	
Moderate	25	(14)	42	(7)	
High	21	(11)	29	(5)	
Definite	1	(1)	11	(2)	

^A10 observations missing.

^BOne observation missing.

^CThree observations missing.

Table 5. Workplace bullying for doctors in the e-Cohort Study by stress factors (n = 747)

Varying number of missing values for each factor: median 20 missing values (range: 5, 60)

	No stress at all		Source of little stress		Source of some stress		Source of a lot of stress		Source of extreme stress		P-value
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
Emotional pressures											
<i>Dealing with the terminally ill and their relatives</i>											
Bullied	33	(18)	63	(34)	54	(30)	28	(15)	5	(3)	0.005
Otherwise	93	(17)	166	(31)	224	(41)	54	(10)	3	(1)	
<i>Daily contact with dying and chronically ill patients</i>											
Bullied	36	(20)	65	(36)	49	(27)	26	(14)	6	(3)	0.001
Otherwise	111	(21)	177	(33)	203	(38)	47	(9)	2	(0)	
<i>Taking care of suffering patients</i>											
Bullied	28	(15)	58	(31)	70	(38)	26	(14)	3	(2)	0.14
Otherwise	75	(14)	168	(31)	238	(44)	53	(10)	2	(0)	
<i>Twenty-four hour responsibility for patient's lives</i>											
Bullied	34	(18)	19	(10)	64	(35)	43	(23)	25	(14)	<0.001
Otherwise	113	(21)	136	(25)	154	(29)	102	(19)	32	(6)	
<i>Emotional engagement with patients</i>											
Bullied	27	(15)	60	(32)	64	(35)	29	(16)	5	(3)	0.001
Otherwise	92	(17)	227	(42)	171	(31)	52	(10)	1	(0)	
<i>Conducting surgery</i>											
Bullied	54	(31)	59	(34)	37	(21)	14	(8)	9	(5)	0.28
Otherwise	184	(36)	176	(34)	111	(22)	31	(6)	12	(2)	
<i>Being in a state of readiness</i>											
Bullied	24	(13)	55	(30)	55	(30)	34	(19)	13	(7)	<0.001
Otherwise	96	(18)	197	(36)	176	(33)	63	(12)	9	(2)	
Time pressure											
<i>Interruptions and fuss at work</i>											
Bullied	5	(3)	25	(14)	57	(31)	68	(37)	30	(16)	<0.001
Otherwise	37	(7)	129	(24)	228	(42)	132	(24)	22	(4)	
<i>Time pressures</i>											
Bullied	4	(2)	17	(9)	52	(28)	70	(38)	42	(23)	<0.001
Otherwise	18	(3)	80	(15)	212	(38)	191	(35)	50	(9)	
<i>Arranging admissions</i>											
Bullied	27	(15)	38	(21)	67	(37)	32	(18)	18	(10)	<0.001
Otherwise	121	(23)	160	(30)	157	(30)	74	(14)	15	(3)	
<i>Medical records and paperwork</i>											
Bullied	17	(9)	41	(22)	61	(33)	45	(24)	22	(12)	0.005
Otherwise	57	(10)	173	(32)	182	(33)	108	(20)	27	(5)	
<i>Working environment</i>											
Bullied	16	(9)	47	(25)	71	(38)	40	(22)	12	(6)	<0.001
Otherwise	119	(22)	224	(41)	156	(29)	38	(7)	8	(1)	
<i>Night calls</i>											
Bullied	37	(21)	31	(17)	35	(20)	40	(22)	36	(20)	<0.001
Otherwise	169	(32)	104	(20)	121	(23)	88	(17)	45	(9)	
Fear of complaints and criticism											
<i>Worrying about patient's complaints</i>											
Bullied	17	(9)	63	(34)	61	(33)	31	(17)	13	(7)	<0.001
Otherwise	80	(15)	207	(38)	199	(36)	53	(10)	9	(2)	
<i>No appreciation of your work by patients</i>											
Bullied	33	(18)	65	(35)	49	(26)	28	(15)	11	(6)	<0.001
Otherwise	164	(30)	235	(43)	119	(22)	27	(5)	3	(1)	
<i>Adverse publicity by media</i>											
Bullied	32	(17)	52	(28)	50	(27)	28	(15)	22	(12)	<0.001
Otherwise	136	(25)	193	(35)	148	(27)	55	(10)	19	(3)	
<i>Dealing with relatives as patients</i>											
Bullied	47	(26)	52	(28)	52	(28)	22	(12)	11	(6)	0.24
Otherwise	151	(28)	169	(31)	150	(28)	55	(10)	14	(3)	
<i>Dealing with friends as patients</i>											
Bullied	48	(26)	60	(33)	41	(22)	24	(13)	10	(5)	0.03
Otherwise	145	(27)	165	(30)	159	(29)	67	(12)	8	(1)	

Table 5. (continued)

	No stress at all		Source of little stress		Source of some stress		Source of a lot of stress		Source of extreme stress		P-value
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
<i>Expectations that the physician should also deal with non-medical problems</i>											
Bullied	34	(19)	56	(31)	43	(23)	32	(17)	18	(10)	<0.001
Otherwise	117	(22)	191	(35)	155	(28)	69	(13)	12	(2)	
<i>Conflicts with colleagues or other staff</i>											
Bullied	14	(8)	47	(25)	61	(33)	38	(20)	26	(14)	<0.001
Otherwise	124	(22)	234	(42)	134	(24)	49	(9)	13	(2)	
Work/home interference											
<i>Demands of your job on family life</i>											
Bullied	9	(5)	27	(15)	61	(33)	57	(31)	32	(17)	<0.001
Otherwise	49	(9)	153	(28)	183	(33)	121	(22)	50	(9)	
<i>Balancing oneself between work and private life</i>											
Bullied	5	(3)	26	(14)	51	(27)	65	(35)	39	(21)	<0.001
Otherwise	45	(8)	125	(22)	193	(35)	136	(24)	57	(10)	
<i>Demands of your job on your social life</i>											
Bullied	13	(7)	32	(17)	50	(27)	58	(31)	32	(17)	<0.001
Otherwise	84	(15)	185	(33)	161	(29)	89	(16)	37	(7)	

bullying within the broad-based multi-domain questionnaire makes response bias by victims of bullying highly unlikely. Past web-driven population surveys have also generally yielded low to moderate response rates,²⁶ although the deleterious effect of the resulting biases has been argued.²⁷ As with all screening measures that use a sensitive rather than specific measure, we are at risk of including false positives amongst our positive cases. The cross-sectional nature of the data presented here prevents any determination of causality between bullying and mental health, absenteeism, job satisfaction, job stressors and workforce participation. Despite these limitations, our finding that 25% of participants reported being bullied suggests that bullying may be a problem in the Australian medical workforce that requires further investigation.

Our study is the first to examine bullying within a cross-section of a national medical workforce and with 747 respondents, is amongst the largest published studies investigating this issue. Previous studies have investigated the prevalence of bullying in specific sectors of the workforce, including junior doctors,^{2,11,12,14,17} trainee psychiatrists,¹⁰ postgraduate hospital dentists,¹⁵ and staff of specific regional health administrations.^{13,28} However, comparisons between studies are difficult because different definitions of bullying and data collection methods were used. Nonetheless, studies using comparable approaches to ours have reported similar rates of bullying: 18% in junior doctors,² and 25% in postgraduate hospital dentists.¹⁵ Studies investigating the prevalence of bullying generally enquire about perceived victimisation, as we did, or exposure to specific bullying behaviours, or a mix of both approaches.³ But, as the defining characteristic of bullying is the impact of the behaviour on the victim, not the behaviour itself or the intent of the perpetrator,²⁹ simply asking about exposure to specific behaviours without assessing their impact may inflate the prevalence of bullying. Indeed, studies adopting this latter approach reported higher rates of bullying than our study.

Workplace bullying is not unique to the medical workforce, however, its negative impact on the quality and safety of patient

care magnifies its harmful consequences in this environment. A recent review of Australian hospitals in one state, initiated after two widely publicised cases of serious medical errors, found that bullying was widespread, with 'associated intimidation and intolerance of dissent' contributing to a malfunctioning health-care system.^{8,30} The healthcare sector is under stress with increasing recognition that traditional roles and systems for healthcare delivery are no longer appropriate. This has led to rapid and widespread reform throughout the sector, with concomitant confusion and ambiguity about roles and responsibilities and the creation of opportunities for the abuse of power through bullying. Nevertheless, it is every worker's moral and legal right to a safe and healthy working environment, and an organisation where bullying occurs is not such an environment.³¹ Organisation-wide anti-bullying policies are required, irrespective of the size or number of employees, that clearly define bullying, identify what is and what is not bullying behaviours, are publicly endorsed by the senior management, provide a safe mechanism for reporting bullying, and include both informal and formal strategies for prompt resolution in a sensitive, rather than punitive, manner.³² This is especially important because the perpetrator may consider his/her behaviour, for example, appropriate disciplinary action or 'my style of teaching'⁵ and be unaware of the negative impact on the victim's ability to function in a professional role in the workplace. Therefore, education and awareness-raising may be an important first measure by alerting the perpetrator of the distress they are causing and facilitating behaviour changes.⁵

The seriousness and complexity of workplace bullying should not be underestimated. It is important to not confuse bullying with effective supervision which may, at times, include managing poor performance or medical errors. Simply put, the latter is supportive and constructive, whereas the former is undermining and destructive.⁵ Bullying affects both the victim and the organisation in which it occurs. It has a detrimental impact on the health, performance, productivity and retention of staff, and the safety and satisfaction of patients.⁶ Although our cross-sectional data

are unable to draw any conclusions about causality, an association between bullying and several adverse health measures has been demonstrated. Further research through longitudinal investigations is urgently needed to disentangle the causes and effects of bullying.³² The results of these investigations could enable the development of education programs and policies that address bullying in the medical workforce at four discrete, but interconnected levels: the victims; the perpetrators; the individual organisations; and the entire culture of medicine. With the recognised shortages of doctors in Australia and worldwide, action is required to address this issue that has a detrimental impact on the viability of the Australian medical workforce.

Competing interests

The authors declare there are no competing interests.

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References

- World Health Organisation. Working together for health: The World Health Report 2006. Geneva: World Health Organisation, 2006.
- Paice E, Aitken M, Houghton A, Firth-Cozens J. Bullying among doctors in training: cross sectional questionnaire survey. *BMJ* 2004; 329: 658–9. doi:10.1136/bmj.38133.502569.AE
- Bentley T, Catley B, Cooper-Thomas H, Gardner D, O'Driscoll M, Trenberth L. Understanding stress and bullying in New Zealand work places, 2009. Available at <http://www.massey.ac.nz/massey/fms//Massey%20News/2010/04/docs/Bentley-et-al-report.pdf> [verified April 2010].
- Rayner C, Hoel H. A summary review of literature relating to workplace bullying. *J Community Appl Soc Psychol* 1997; 7: 181–91. doi:10.1002/(SICI)1099-1298(199706)7:3<181::AID-CASP416>3.0.CO;2-Y
- Hicks B. Time to stop bullying and intimidation. *Hosp Med* 2000; 61(6): 428–31.
- Martin WF. Is your hospital safe? Disruptive behavior and workplace bullying. *Hosp Top* 2008; 86: 21–8. doi:10.3200/HTPS.86.3.21-28
- McAvoy BR, Murtagh J. Workplace bullying. *BMJ* 2003; 326: 776–7. doi:10.1136/bmj.326.7393.776
- Van Der Weyden MB. In the wake of the Garling inquiry into New South Wales public hospitals: a change of cultures? *Med J Aust* 2009; 190: 51–2.
- Ahmer S, Yousafzai AW, Bhutto N, Alam S, Sarangzai AK, Iqbal A. Bullying of medical students in Pakistan: a cross-sectional questionnaire survey. *PLoS ONE* 2008; 3: e3889. doi:10.1371/journal.pone.0003889
- Ahmer S, Yousafzai AW, Siddiqi M, Faruqi R, Khan R, Zuberi S. Bullying of trainee psychiatrists in Pakistan: a cross-sectional questionnaire survey. *Acad Psychiatry* 2009; 33: 335–9. doi:10.1176/appi.ap.33.4.335
- Bairy KL, Thirumalaikolundusubramanian P, Sivagnanam G, Saraswathi S, Sachidananda A, Shalini A. Bullying among trainee doctors in Southern India: a questionnaire study. *J Postgrad Med* 2007; 53: 87–90. doi:10.4103/0022-3859.32206
- Quine L. Workplace bullying in junior doctors: questionnaire survey. *BMJ* 2002; 324: 878–9. doi:10.1136/bmj.324.7342.878
- Rutherford A, Rissel C. A survey of workplace bullying in a health sector organisation. *Aust Health Rev* 2004; 28: 65–72. doi:10.1071/AH040065
- Scott J, Blanshard C, Child S. Workplace bullying of junior doctors: cross-sectional questionnaire survey. *N Z Med J* 2008; 121: 10–4.
- Steadman L, Quine L, Jack K, Felix DH, Waumsley J. Experience of workplace bullying behaviours in postgraduate hospital dentists: questionnaire survey. *Br Dent J* 2009; 207: 379–80. doi:10.1038/sj.bdj.2009.901
- Stebbing J, Mandalia S, Portsmouth S, Leonard P, Crane J, Bower M, Earl H, Quine L. A questionnaire survey of stress and bullying in doctors undertaking research. *Postgrad Med J* 2004; 80: 93–6. doi:10.1136/pmj.2003.009001
- Cheema S, Ahmad K, Giri S, Kaliaperumal V, Naqvi S. Bullying of junior doctors prevails in Irish health system: a bitter reality. *Ir Med J* 2005; 98: 274–5.
- Huntington A, Gilmour J, Schluter P, Tuckett A, Bogossian F, Turner C. The Internet as a research site: establishment of a web-based longitudinal study of the nursing and midwifery workforce in three countries. *J Adv Nurs* 2009; 65: 1309–17. doi:10.1111/j.1365-2648.2009.04995.x
- Turner C, Bain C, Schluter PJ, Yorkston E, Bogossian F, McClure R, Huntington A. Cohort profile: the Nurses and Midwives e-Cohort Study – a novel electronic longitudinal study. *Int J Epidemiol* 2009; 38: 53–60. doi:10.1093/ije/dym294
- Schluter P, Turner C, Huntington A, Bain C, McClure R. Work/life balance and health: the Nurses and Midwives e-Cohort Study. *Int Nurs Rev* 2011; 58: 28–36.
- Frank E, Segura C. Health practices of Canadian physicians. *Can Fam Physician* 2009; 55: 810–1.
- Røvik JO, Tyssen R, Hem E, Gude T, Ekeberg O, Moum T, Vaglum P. Job stress in young physicians with an emphasis on the work-home interface: a nine-year, nationwide and longitudinal study of its course and predictors. *Ind Health* 2007; 45: 662–71. doi:10.2486/indhealth.45.662
- Ware J, Kosinski M, Dewey J. How to score Version 2 of the SF-36 Health Survey. Lincoln, RI: Quality Metric Inc.; 2000.
- Australian Institute of Health and Welfare. Medical labour force 2007. National health labour force series no. 44. Cat. no. HWL 42. Canberra: AIHW; 2009. Available at <http://www.aihw.gov.au/publications/hwl/hwl45-10723/hwl45-10723.pdf> [verified October 2009].
- Smith B, Smith TC, Gray GC, Ryan MA. When epidemiology meets the Internet: web-based surveys in the Millennium Cohort Study. *Am J Epidemiol* 2007; 166: 1345–54. doi:10.1093/aje/kwm212
- Ekman A, Dickman PW, Klint A, Weiderpass E, Litton JE. Feasibility of using web-based questionnaires in large population-based epidemiological studies. *Eur J Epidemiol* 2006; 21: 103–11. doi:10.1007/s10654-005-6030-4
- Nohr EA, Frydenberg M, Henriksen TB, Olsen J. Does low participation in cohort studies induce bias? *Epidemiology* 2006; 17: 413–8. doi:10.1097/01.ede.0000220549.14177.60
- Quine L. Workplace bullying in NHS community trust: staff questionnaire survey. *BMJ* 1999; 318: 228–32. doi:10.1136/bmj.318.7178.228
- Dickson D. Bullying in the workplace. *Anaesthesia* 2005; 60(12): 1159–61. doi:10.1111/j.1365-2044.2005.04465.x
- Skinner CA, Braithwaite J, Frankum B, Kerridge RK, Goulston KJ. on behalf of the Hospital Reform Group. Reforming New South Wales public hospitals: an assessment of the Garling inquiry. *Med J Aust* 2009; 190: 78–9.
- Australian Human Rights Commission. Good practice, good business: eliminating discrimination and harassment from your workplace – workplace bullying. Available at http://www.humanrights.gov.au/info_for_employers/pdf/7_workplace_bullying.pdf [verified August 5, 2001].
- Kieseker R, Marchant T. Workplace bullying in Australia: a review of current conceptualisations and existing research. *Australian Journal of Management and Organisational Behaviour* 1999; 2: 61–75.