Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

Removal of doctors from practice for professional misconduct in Australia and New Zealand

Katie Elkin, Matthew J Spittal, David Elkin, David M Studdert

The Melbourne School of Population Health, Melbourne Law School, University of Melbourne, Parkville, Victoria, Australia

Correspondence to
Professor David M Studdert, Melbourne School of Population Health, Parkville, Victoria 3052, Australia; d.studdert@unimelb.edu.au

Accepted 23 June 2012

ABSTRACT

Objective: To examine how disciplinary tribunals assess different forms of misconduct in deciding whether to remove doctors from practice for professional misconduct.

Design and setting: Multivariable regression analysis of 485 cases in which tribunals found doctors guilty of professional misconduct. The cases came from four Australian states (New South Wales, Victoria, Queensland and Western Australia) and New Zealand and were decided over a 10-year period (1 January 2000 – 30 September 2009).

Main outcome measures: Type of misconduct, the tribunal's explanation for why the misconduct occurred, and the disciplinary measure imposed.

Results: 43% of the cases resulted in removal of the offending doctor from practice, 37% in restrictions on practice and 19% in non-restrictive sanctions. The odds of removal were very high in cases involving sexual relationships with patients (OR 22.59; 95% CI 10.18 to 50.14) and moderately high in cases involving inappropriate sexual conduct (not in the context of a relationship), commission of criminal offences, and forms of inappropriate conduct unrelated to patients. Cases in which the misconduct was judged to be due to willful wrongdoing (OR 17.14; 95% CI 8.62 to 34.09), incompetence (OR 6.02; 95% CI 2.87 to 12.63) and issues in the doctor's personal life (OR 4.17; 95% CI 2.07 to 8.41) also had higher odds removal from practice.

Conclusion: Tribunals in Australia and New Zealand tend to remove doctors from practice for behaviours indicative of character flaws and lack of insight, rather than behaviours exhibiting errors in care delivery, poor clinical judgement or lack of knowledge. The generalisability of these findings to regulatory regimes for health practitioners in other countries should be tested.

INTRODUCTION

Protection of the public is the core mission of medical boards (hereafter 'boards'). They pursue this in a variety of ways: by setting requirements for registration to practice medicine, imposing practice conditions or restrictions and, in extreme circumstances, removing doctors from practice by revoking their registration. In most countries, decisions about whether to remove doctors from practice are made by either a subcommittee of the board or an independent tribunal (hereafter 'tribunals'), following formal disciplinary hearings of charges brought against the offending doctor.

Previous research has profiled disciplinary cases, describing the characteristics of doctors involved, the nature of the alleged misconduct, and the disciplinary measures imposed.[1–7] However, there are several important gaps in this literature. First, the nature of the misconduct involved has been examined only in general terms. Typologies used to date tend to divide misconduct into categories that are few in number, non-specific, and often conflate types of misconduct (eg, mis-prescribing) with underlying reasons for the misconduct (eg, incompetence, criminality). Second, only two studies[2 4] have linked the nature of the misconduct to outcomes of the disciplinary process, and they have done so using broad categories to describe the offending behaviour. Third, all of the major studies to date are from North America.

We analysed a decade of disciplinary cases against doctors in Australia and New Zealand in which tribunals found misconduct. Our goal was to identify whether the subset of cases that resulted in removal from practice had distinctive features. We were particularly interested in whether and how those features evinced the public protection mission of the boards and tribunals.

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

METHODS

Sample

Until 1 July 2010, when a unified national medical board structure commenced, medical boards operated independently in each of Australia's eight states and two territories; the Medical Council of New Zealand has long had national jurisdiction. In both countries, boards may bring disciplinary charges in tribunals against doctors suspected of committing professional misconduct. The tribunals hear the matters and issue written determinations.

Our sample frame was all disciplinary cases adjudicated by tribunals in Australia's four most populous states (New South Wales, Victoria, Queensland and Western Australia) and New Zealand between 1 January 2000 and 30 September 2009. These jurisdictions cover approximately 85% of Australia's 88 000 registered doctors and all 17 000 registered doctors in New Zealand.[8] After excluding cases in which the tribunal dismissed all charges and those exclusively concerned with non-disciplinary matters, such as impairment or ill-health (n=203), our study sample consisted of 485 cases.

The Human Research Ethics Committee at the University of Melbourne approved the study.

Data sources

Our data came from two main sources. First, we gathered the written determinations associated with all sampled cases. Determinations contain detailed information about the case, including the nature of the charge; results of investigations and other evidence considered; submissions from the doctor concerned; the tribunal's decision; and the reasons for and details of any penalties imposed. The text of these documents ranged in length from several paragraphs to 110 pages. For 80% of cases, the full text of the determination was available; for the rest—essentially cases from Victoria in 2000 and early 2001 and cases from Western Australia—only summaries of the determinations were available.

Second, we extracted information from medical registers. In every jurisdiction covered by our sample, this information was online and publicly accessible.

Key variables

The three main variables of interest were type of misconduct, the tribunal's explanation for why the misconduct had occurred, and the disciplinary measure imposed. Given the limitations of existing classifications of misconduct, we used a standard coding methodology[9–11] to develop new and separate typologies for the 'type' and 'explanation' dimensions of cases.

Misconduct type

We began with a draft typology derived from a merge of the categories used by two boards (Victoria and Queensland) with relatively comprehensive typologies.[12 13] Two investigators (KE, DE) then independently reviewed 100 determinations, applying the draft typology to the misconduct at issue in each case, and adding and modifying categories as appropriate. We then compared and discussed the results of this review to determine a final set of 13 misconduct types.

Misconduct explanation

The same two investigators independently reviewed 40 determinations and compiled a list of candidate categories for the underlying reasons for the misconduct at issue, based on the evidence adduced and the tribunal's assessment of that evidence. Comparison and discussion of the two lists led to agreement on a six-category typology: poor judgement (defined as inappropriate decision making); willful wrongdoing (deliberate breach of required standards); personal situation (including family issues, psychological disorder, addiction, financial issues, and cultural misunderstanding); work environment (including workload, stress, isolation, and administrative issues within the doctor's practice); incompetence (systemic inability to practice to the required standard); and insufficient knowledge (specific gaps in the required knowledge).

Disciplinary measure

Construction of this variable involved relatively simple, explicit judgements. We reviewed a subsample of 40 determinations, transcribed the disciplinary measure imposed in each, and then discussed the list and reached consensus on a typology consisting of three categories (removal from practice, restrictions on practice, and non-restrictive sanctions such as reprimands or fines) and nine subcategories.

Study instrument

We developed an instrument to facilitate case-by-case recording of values for the three variables of interest. The instrument allowed coding of up to four misconduct types per case and as many explanations for the misconduct per case as the tribunal identified and discussed in the determination. Each of these variables was dummy coded. The study instrument also captured other information about the case, including the number of patients affected by the misconduct, the patient outcome, who initially notified the matter to a regulatory body and various doctor characteristics.

Data collection

We reviewed the determinations for all sampled cases. Data from these reviews were supplemented with basic

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

socio-demographic data (year of qualification, specialty and gender) on the doctors involved, which was extracted from medical registries. When a doctor's registration record could not be found, we obtained it from the registration database of another jurisdiction (for doctors registered in multiple jurisdictions), from the determinations themselves or, as a last resort, through a request to the board in the relevant jurisdiction.

To test the reliability of the review, 5% of cases were re-reviewed by a second reviewer who was blinded to the first review.

Statistical analysis

All analyses were conducted at the case level. After calculating counts and proportions for the descriptive variables, we used multivariable logistic regression analysis to identify variables associated with removal from practice. The outcome in these analyses was a binary variable distinguishing cases that resulted in removal of a doctor from practice (de-registration or suspension) from cases with lesser penalties (restrictions on practice and non-restrictive sanctions). The predictors of interest were misconduct type and explanation for the misconduct (separate model for each variable). Both models adjusted for doctors' sex, specialty and state. We tested whether several other variables (notifier, number of patients affected, patient outcome and previous disciplinary matters) affected the relationships of interest; they did not, and so we did not include them as covariates in the models.

We calculated percentage agreement and κ scores to measure inter-reviewer reliability.[14] We report these reliability measures for the two variables (misconduct type and explanation for the misconduct) that necessitated implicit reviewer judgements in the coding of determinations.

All analyses were conducted using Stata V.10.

RESULTS

Sample characteristics

Ninety-two per cent of cases were against male doctors and 65% were against general practitioners (table 1). The next most prevalent specialties of the doctors involved were psychiatry (10%), surgery (7%) and obstetrics/gynaecology (6%). The doctors had qualified in medicine an average of 21.4 years before committing the misconduct at issue.

Half of the cases were initially notified by patients or their representatives and one-third of cases involved multiple patients. The tribunals identified harm to patients (beyond emotional upset only) associated with the misconduct in 37% (171/468) of cases, including 36 cases (8%) in which one or more patients died. Sixteen

Table 1 Characteristics of study sample (n=485)

Cases*	
Jurisdiction, n (%)†	
Victoria	157 (32)
New South Wales	130 (27)
Western Australia	87 (18)
New Zealand	71 (15)
Queensland	40 (8)
Notifier, n (%)	
Patient or patient rep	191 (50)
Court	64 (17)
Medical board or council	56 (15)
Other health professional	20 (5)
Other	50 (13)
Number of patients, n (%)§	
0	75 (16)
1	240 (51)
2+	155 (33)

Cases (cont'd)	
Patient outcome, n (%)‡	
Death	36 (8)
Physical injury	41 (9)
Psychiatric injury	28 (6)
Drug dependency	66 (14)
Upset to patient	126 (27)
Risk to patient	72 (15)
No consequences	24 (5)
Not applicable	75 (16)
Doctors involved	
Men, n (%)	440 (91)
Years since qualification, mean (SD)	21.4 (9.8)
Specialty, n (%)	
General practice	285 (65)
Psychiatry	43 (10)
Surgery	32 (7)
Obstetrics/gynaecology	24 (6)
Other	52 (11)
Previous misconduct matter, n (%)	136 (28)

*All categories are mutually exclusive.
†Percentages were calculated using the number of available observations as the denominator. Data were missing for doctor's sex in three cases (1%); number of patients in 15 cases (3%); patient outcome in 17 cases (3%); previous disciplinary action in 18 cases (4%); specialty in 49 cases (10%); notifier in 104 cases (21%); years since qualification in 118 cases (24%); and previous misconduct matter in 18 cases (4%).
‡One outcome recorded per case (the most severe) with outcomes shown in descending order of approximated severity. Percentages were calculated using the number of available observations as the denominator.
§Number of patients mentioned in tribunal's decision as having been affected by the conduct.

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

per cent of cases involved issues unrelated to patient contact.

Disciplinary measures

Forty-three per cent of cases resulted in removal of the offending doctor from practice, 37% in restrictions on practice and 19% in non-restrictive sanctions (table 2). Among removal cases, two-thirds (138/209) effected this by de-registration and one-third (71/209) by a temporary suspension of licensure. In 28% (136/485) of cases, tribunals referred to the doctor's involvement in one or more previous disciplinary matters.

Nature of misconduct

The most common type of misconduct at issue was inappropriate or inadequate treatment (36% of cases) followed by inadequate or inappropriate medical certificates or records (26%) and illegal or unethical prescribing (25%) (table 3).

With respect to explanations for misconduct, poor judgement (46% of cases) and willful wrongdoing (45%) were the most prevalent factors identified by tribunals. The other four explanations (personal situation, work environment, incompetence and insufficient knowledge) were each present in about one-quarter of cases. In 63% of cases, tribunals identified and discussed multiple explanations for the misconduct.

Table 4 shows several examples of misconduct. The table also indicates how these behaviours were coded into types of and explanations for the misconduct.

Table 2 Disciplinary measures imposed

	n (%)*
Removal from practice†	209 (43)
Deregistration	138
Suspension	71
Restrictions on practice	179 (37)
Education programme	57
Counselling	39
Supervision	33
Other conditions	130
Non-restrictive sanction	93 (19)
Reprimand	85
Fine	32
Costs	51

*Data on the disciplinary measure imposed were missing in four cases. All percentages were calculated using the number of available observations as the denominator.
†Parent categories of disciplinary measures are mutually exclusive with overlaps resolved according to a hierarchy that follows the descending order of parent categories shown. Within parent categories, subcategories were not mutually exclusive at the case level.

Removal-from-practice rates, by case characteristics

In 81% of cases in which the misconduct was having had a sexual relationship with patients, the sanction was to remove the offending doctor from practice. Other types of misconduct with high removal rates were breach of registration conditions (58%), inappropriate sexual conduct towards a patient (not in the context of a relationship) (53%), inappropriate conduct not in relation to a patient (52%), and illegal or unethical prescribing (46%).

Multivariable analyses

The odds of removal from practice were 22 times higher in cases in which doctors were found to have had a sexual relationship with a patient (OR 22.59; 95% CI 10.18 to 50.14) compared with all other cases (table 3). Other types of misconduct associated with relatively high odds of removal were inappropriate sexual conduct outside the context of a relationship (OR 4.39; 95% CI 1.99 to 9.68), commission of a criminal offence (OR 4.11; 95% CI 1.26 to 13.39), inappropriate conduct not in relation to a patient (OR 3.06; 95% CI 1.65 to 5.68), breach of registration conditions (OR 2.40; 95% CI 1.19 to 4.85) and illegal or unethical prescribing (OR 2.27; 95% CI 1.28 to 3.99).

In the multivariable model focused on explanations for the misconduct, the odds of removal were nearly 18 times higher for behaviour judged to be the result of willful wrongdoing (OR 17.92; 95% CI 4.92 to 12.73). Odds of removal were also relatively high for behaviour linked to incompetence (OR 6.02; 95% CI 2.87 to 12.63) and issues in the doctor's personal life (OR 4.17; 95% CI 2.07 to 8.41).

Inter-rater reliability

The reliability testing on 24 pairs of reviews showed excellent agreement between the reviewers. The percentage agreement for misconduct type and explanation for misconduct was 86% and 78%, respectively; the κ scores were 0.85 (SE=0.05) and 0.74 (SE=0.06), respectively.

DISCUSSION

This study found that 43% of doctors disciplined by tribunals in Australia and New Zealand in the decade to 2010 were consequently removed from practice. The removal rate varied widely across different types of misconduct, peaking in cases in which doctors were found to have engaged in sexual relationships with patients. The removal rate also varied by underlying explanations tribunals saw for the misconduct. Most notably, doctors judged to have acted wilfully, aware that their actions breached professional expectations, faced very high odds of license revocation or suspension.

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

Table 3 Types of misconduct, explanations for misconduct, removal rates and multivariable predictors of removal

	Cases, n (% of all cases)*	Cases resulting in removal from practice, n (category %)	OR (95% CI)†	p Value
Type of misconduct‡				
Inappropriate or inadequate treatment	175 (36)	65 (38)	1.69 (0.98 to 2.91)	0.06
Inadequate or inappropriate medical certificates or records	127 (26)	53 (42)	1.12 (0.67 to 1.89)	0.66
Illegal or unethical prescribing	119 (25)	55 (46)	2.27 (1.28 to 3.99)	0.005
Inappropriate conduct not in relation to patient	79 (16)	41 (52)	3.06 (1.65 to 5.68)	<0.001
Sexual relationship with patient	79 (16)	64 (81)	22.59 (10.18 to 50.14)	<0.001
Inappropriate non-sexual conduct towards patient	71 (15)	30 (42)	1.67 (0.88 to 3.17)	0.12
Breach of conditions	60 (13)	35 (58)	2.40 (1.19 to 4.85)	0.01
Failure to obtain informed consent	54 (11)	14 (26)	0.89 (0.42 to 1.88)	0.76
Inappropriate sexual conduct towards patient (not relationship)	47 (10)	25 (53)	4.39 (1.99 to 9.68)	<0.001
Missed, delayed or incorrect diagnosis	37 (8)	9 (24)	0.70 (0.28 to 1.75)	0.45
Criminal offence	18 (4)	7 (39)	4.11 (1.26 to 13.39)	0.02
Breach of privacy	11 (2)	3 (27)	0.37 (0.08 to 1.77)	0.21
Supervision of others	10 (2)	2 (20)	0.62 (0.11 to 3.34)	0.58
Explanation for misconduct§				
Poor judgement	164 (46)	64 (39)	1.15 (0.64 to 2.06)	0.64
Willful wrongdoing	162 (45)	112 (69)	17.14 (8.62 to 34.09)	<0.001
Personal situation	90 (25)	51 (57)	4.17 (2.07 to 8.41)	<0.001
Work environment	86 (24)	24 (28)	0.67 (0.33 to 1.37)	0.27
Incompetence	84 (23)	51 (61)	6.02 (2.87 to 12.63)	<0.001
Insufficient knowledge	82 (23)	18 (22)	0.68 (0.32 to 1.43)	0.31

*Of 485 cases, four cases were missing data on whether the tribunal imposed a removal sanction, five cases were missing data on conduct type, and 127 cases were missing data on explanation for the misconduct. Frequency statistics and multivariable models thus used 477 cases for the analysis of misconduct types and 357 cases for the analysis of explanations for misconduct.
†ORs come from two multivariable models (type of misconduct model, explanation for misconduct model) and are adjusted for doctors' sex, specialty and state.
‡Fifty-eight per cent of cases involved >1 type of misconduct (mean per case 1.85; SD 0.86).
§Sixty-three per cent of cases involved >1 explanation for misconduct (mean per case 1.90; SD 0.82).

The case outcomes in our sample fall between those reported by Morrison and Wickersham[2] for the Medical Board of California (removal in 34% of cases, restrictions on practice in 45% and non-restrictive sanctions in 21%) and Clay and Conaster's study of the State Medical Board of Ohio (removal in 64% of cases).[4] To the extent it is possible to compare, the distribution of cases across misconduct types in our study looks broadly similar to distributions reported in other studies. For example, combining the two sexual misconduct categories used in our study, the proportion of cases that resulted in removal (70%) lies in the middle of the range (60–80%) identified in previous US studies.[1 4 5] The removal rates among cases involving breach of conditions and illegal and unethical prescribing are also similar to rates detected for broadly analogous types of misconduct in previous studies.[2 5] However, our ability to compare results with previous studies is constrained by the fact that the typologies we used to describe the nature of the misconduct at issue are more nuanced and detailed than those used in previous studies. In particular, we disaggregated the misconduct into dimensions describing the behaviour both in a simple descriptive sense and in terms of its perceived underlying cause.

Finding near zero tolerance for sexual relationships was not unexpected. However, it is not immediately clear why having a sexual relationship with a patient is much more strongly associated with removal than other forms of inappropriate sexual conduct towards patients. Closer analysis of the sexual relationship cases suggests that tribunals tend to be dismissive of the idea that patient consent has any weight, given the power imbalance between the parties. Rather, the ongoing and typically clandestine nature of sexual relationships, often combined with a lack of insight and remorse, elevates the seriousness of this conduct from a public protection perspective. By contrast, in cases involving sexual misconduct that occurs outside a relationship, the misconduct is often an isolated incident, which may be judged to have occurred due to misunderstandings or one-off indiscretions.

Our findings in relation to misconduct type show that failings in relation to delivery of medical care, such as

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

Table 4 Examples of the application of the developed typology for misconduct type and explanation for misconduct

Example	Misconduct type	Explanation for misconduct
General practitioner prescribed without authority. Medications were prescribed at inappropriate dosages and medical records kept were inadequate. Administrative problems within the general practitioner's practice were an issue	Illegal or unethical prescribing; medical certificates or records; treatment	Insufficient knowledge; poor judgement; work environment
Patient presented with unexplained bleeding numerous times over 6 months. Obstetrician/gynaecologist did not do an internal examination and missed diagnosing a benign growth	Missed, delayed or incorrect diagnosis	Insufficient knowledge
Ophthalmologist performed laser surgery on patient's eye without informing her of risks of procedure. Despite complications, ophthalmologist proceeded to operate on other eye	Informed consent; treatment	Poor judgement
General practitioner had sexual relationship with patient while doctor for patient's entire family, including husband. GP told patient's husband she was not having an affair. GP was stressed from changes in work situation and suffering from a psychological disorder	Sexual relationship with patient	Willful wrongdoing; work situation; personal situation
Doctor concealed his hepatitis B infection on his application for registration then lied to investigators about it. Also concealed from own treating doctor that he was practicing as a doctor	Inappropriate conduct not in relation to patients	Willful wrongdoing; poor judgement
General practitioner performed an unsuccessful examination and then an intimate internal examination of female patient. The second examination was medically unnecessary. Communicated poorly with patient. GP was foreign trained and tribunal identified some cultural misunderstandings at play	Inappropriate sexual conduct towards patient; treatment; inappropriate non-sexual conduct towards patient	Incompetence; personal situation

mistreatment and diagnosis, result in removal from practice much less frequently than does misconduct involving personal failings, such as inappropriate conduct towards patients, unprofessional personal conduct and non-adherence to practice conditions already imposed by the board. One plausible explanation for the divergence is that tribunals are more likely to opt for removal when dealing with incidents indicative of unsatisfactory character than they are when dealing with incidents that reveal substandard care. If removal decisions are influenced by the tribunal's views of the feasibility of rehabilitation, this makes sense. Tribunals and boards have at their disposal a range of interventions to address deficiencies in core medical competencies, including retraining programmes and practice conditions, and progress achieved via such interventions is generally measurable. Thus, the feasibility of intervention and the perceived potential for rehabilitation are likely to make penalties short of removal seem appealing. By contrast, dysfunctional behaviours and clear signs of bad character may be perceived as relatively untreatable.

The results from our analysis of explanations for misconduct reinforce the plausibility of this general explanation for the main study findings. Willful wrongdoing, incompetence and issues in a doctor's personal life were all associated with high removal rates; whereas removal rates were much lower when the misconduct at issue was judged to stem from problems in the work environment or insufficient knowledge. In sum, tribunals appear inclined to look behind the labels used in the charges brought before them to evaluate the rehabilitative potential of the doctor concerned. Research into professional misconduct must therefore do the same if it is to reach the aspects of clinicians' behaviour that drive regulators' deepest public-safety concerns and shape their calculus around sanctions.

Our study had several limitations. As with any content analysis of decisions in an adversarial legal system,[12] the

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

data accessible through determinations were necessarily constrained, both by the information parties chose to bring to tribunals and by how tribunals chose to express their written findings. Moreover, interpretations and coding of this information, particularly the explanations for misconduct variable, introduced another level of subjectivity, although the excellent inter-reliability of our reviews provides reassurance on this front.

The conceptualisation of professional misconduct introduced in this study offers a new way of understanding how some bodies that oversee the conduct of health professionals pursue their protective function—in particular, when and why they choose to deploy the most potent sanction at their disposal. Our study suggests that standard descriptors of disciplinary caseloads (ie, misconduct type) are of some use in understanding how tribunals act. But descriptors that focus on underlying causes of the behaviour and longer-term risks to public safety may offer clearer insights into regulators' decision making. This account of health professional regulation should be tested elsewhere, particularly in countries with very similar systems of professional regulation, such as the USA, Canada and the UK.

Contributors KE and DS conceived and designed the study. KE and DE collected and coded the data. KE and DS analysed and interpreted the data, with contributions from DE and MS. KE wrote the first draft of the manuscript, and MS, DE and DS revised and amended it for important intellectual content. KE, MS, DE and DS all approved the final form of the submitted manuscript.

Funding This research was funded by an Australian Research Council (ARC) Federation Fellowship (FF0668632) to Dr Studdert. The funder had no role in the design of the study, the analysis or interpretation of results, or the decision to submit the manuscript for publication.

Competing interests None to declare.

Ethics approval Ethics approval was provided by the Human Research Ethics Committee at the University of Melbourne.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement The text of tribunal decisions that formed the basis of the study dataset are publicly available.

REFERENCES

1. Dehlendorf CE, Wolfe SM. Physicians disciplined for sex-related offenses. *JAMA* 1998;279:1883–8.
2. Morrison J, Wickersham P. Physicians disciplined by a state medical board. *JAMA* 1998;279:1889–93.
3. Morrison J, Morrison T. Psychiatrists disciplined by a state medical board. *Am J Psychiatry* 2001;158:474–8.
4. Clay SW, Conaster RR. Characteristics of physicians disciplined by the state medical board of Ohio. *J Am Osteopath Assoc* 2003;103:81–8.
5. Kohatsu ND, Gould D, Ross LK, *et al*. Characteristics associated with physician discipline: a case-control study. *Arch Intern Med* 2004;164:653–8.
6. Khaliq AA, Dimassi H, Huang CY, *et al*. Disciplinary action against physicians: who is likely to get disciplined? *Am J Med* 2005;118:773–7.
7. Alam A, Klemensberg J, Griesman J, *et al*. The characteristics of physicians disciplined by professional colleges in Canada. *Open Med* 2011;5:e166–72.
8. Australian Institute of Health and Welfare. *Medical Labour Force 2006*. Canberra: Australian Institute of Health and Welfare, 2008.
9. Glaser BG, Strauss AL. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine De Gruyter, 1967.
10. Constas MA. Qualitative data analysis as a public event: the documentation of category development procedures. *Am Educ Res J* 1992;29:253–66.
11. Hall M, Wright R. Systematic content analysis of judicial opinions. *Cal Law Rev* 2008;96:63–122.
12. Medical Board of Queensland. *Annual Report 2008–09*.
13. Medical Practitioners Board of Victoria. *Annual Report 2008*.
14. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics* 1977;33:159–74.

Downloaded from qualitysafety.bmj.com on January 20, 2013 - Published by group.bmj.com

Removal of doctors from practice for professional misconduct in Australia and New Zealand

Katie Elkin, Matthew J Spittal, David Elkin, et al.

BMJ Qual Saf 2012 21: 1027-1033 originally published online July 21, 2012
doi: 10.1136/bmjqs-2012-000941

Updated information and services can be found at:
http://qualitysafety.bmj.com/content/21/12/1027.full.html

These include:

References This article cites 10 articles, 2 of which can be accessed free at:
http://qualitysafety.bmj.com/content/21/12/1027.full.html#ref-list-1

Email alerting service Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/