#

Council, 4 December 2012

Revalidation: Fitness to practise data analysis

Executive summary and recommendations

Introduction

As part of the programme of work looking at continuing fitness to practise and revalidation, a researcher at Oxford Brookes University was commissioned to undertake a multi-variant data analysis.

The attached paper provides information about that analysis and discusses the findings. The report of the analysis is appended.

Decision

The Council is invited to discuss the attached paper and appended report; no specific decision is required.

Background information

Outlined in paper

Resource implications

None as a result of this paper

Financial implications

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None as a result of this paper

Appendices

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- Lesley Smith (2012). Predictors and outcomes of the fitness to practise process for the Health and Care Professions Council.

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Date of paper

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22 November 2012

Revalidation: Fitness to practise data analysis

1. Introduction

1.1 The attached report 'Predictors and outcomes of the fitness to practise process for the Health and Care Professions Council' has been prepared by Lesley Brookes, a researcher at Oxford Brookes University. This report forms part of the programme of work looking at continuing fitness to practise and revalidation.

1.2 The origins of this work are the report of the Continuing fitness to practise Professional Liaison Group (PLG): 'Continuing Fitness to practise: towards an evidence-based approach to revalidation.' This noted that fitness to practise data revealed that a large majority of fitness to practise cases were about conduct or involved a conduct element, and that the available data seemed to indicate that the professions regulated by the HCPC at that time were 'lower risk' compared to others. The PLG's report concluded that further analysis of fitness to practise data to explore 'correlations between age, location of practice and fitness to practise' would be helpful in contributing to the evidence base in this area.[1]

1.3 This work forms part of a programme of work around continuing fitness to practise and revalidation, based on that report's conclusions. This work has been funded using a grant from the Department of Health awarded to the HCPC in 2009.

1.4 The Council last received an overview and update paper on this programme of work in March 2012.[2] The outstanding projects are analysis of CPD audit data (yet to commence); and the conclusion in 2014/2015 of the Durham University research looking at measuring professionalism and 'tracking' students after graduation.

[1] Health Professions Council (2009). Continuing fitness to practise: Towards an evidence based approach to revalidation
http://www.hcpc-uk.org/publications/research/index.asp?id=207

[2] Council meeting, 29 March 2012
Revalidation
http://www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=606 (click on enclosure 08)

1.5 In November 2012, the Professional Standards Authority (then the CHRE) published a report on continuing fitness to practise, looking at the role of the regulators in assuring the fitness to practise of their registrants, including revalidation.[3] The Executive plans to bring a paper on that report and the work concluded to date to the Council's February 2013 meeting. The Education and Training Committee is also due to consider a discussion paper about a wider review of the CPD standards and audits in March 2013, which is part of the wider context of this work.

1.6 This purpose of this short paper is to provide further explanation of the analysis and findings included in the appended report. In particular, this paper aims to situate the analysis within the context of the data we already hold and report on as part of the fitness to practise annual reports.

2. Purpose and study design

2.1 The fitness to practise annual reports already provide comprehensive descriptive data about fitness to practise cases including providing comparative data such as the proportion of allegations in each profession, compared to their proportion in the Register. This reporting allows us to identify trends – for example, one trend is that more male registrants are the subject of allegations than might be expected by their proportion in the Register.[4]

2.2 The purpose of this analysis was to build-on that reporting, but in a way which would allow us to draw conclusions about the variables which might predict fitness to practise outcomes. The aim therefore was to analyse the data in a way which would allow us to make statistically valid conclusions about not only whether certain trends in variables (such as age and gender for example) were associated with fitness to practise case outcomes, but the relative significance of those variables in predicting the outcome of fitness to practise cases. For example, whether age is an independent predictor of fitness to practise case outcomes or whether this variable only works in combination with other more significant variables.

2.3 The study was a case control study which compares two data sets. The first data set was derived from registrants who had fitness to practise allegations and for whom an allegation had reached a final hearing and a caution, conditions of practice, suspension or striking-off order reached. This excluded cases where the allegation was about a fraudulently procured or incorrect entry in the Register and cases where impaired fitness to practise was found but no further action was taken by a panel. The second was a control data set

[3] Council for Healthcare Regulatory Excellence (2012). An approach to continuing fitness to practise based on right-touch regulation principles.
http://www.chre.org.uk/satellite/503/
[4] See: http://www.hcpc-uk.org/publications/reports/

comprised of registrants who had never had contact with the fitness to practise process. The idea is that the control data set should be similar on important variables to the fitness to practise data set, with the exception of the key variable being investigated – in this case, having a fitness to practise allegation.

3. Data

3.1 The report has highlighted a number of issues with historic data which has limited the analysis that was possible at this moment in time. The following provides a summary of those limitations.

- A very small proportion of registrants have a date of birth which has been incorrectly recorded as 1901, 1902, 1903, 1904. This is an historic data migration issue relating to data migrated from our predecessor, the Council for Professions Supplementary to Medicine (CPSM). This affects few registrants who are still registered but is manually corrected where necessary. These registrants were excluded from the analysis.

- Some registrants will not have a date of qualification recorded. This was not always recorded routinely by the CPSM. For applicants via the grandparenting and international route, an approved qualification will not be held, so this accounts for the absence of this data. Where a profession has been registered for the first time 'on block', for example, as part of a data migration from a voluntary register, this data may also not be held. This data is routinely recorded by the HCPC when someone with an approved qualification applies for registration.

- During the course of the work, we considered whether in the absence of complete information on date of qualification, date of registration might be an appropriate proxy figure. This was not possible because of how many professions first became registered. For example, paramedics and speech and language therapists were first registered 'on block' in 2000, meaning that large proportions of registrants in these professions have the same date of registration but may have been in practice for varying periods of time. The report acknowledges the limitations this creates in drawing conclusions about registration year as a predictive variable of fitness to practise cases.

- The fitness to practise data set was comprised of relevant cases since the HCPC register formally opened in July 2003. However, 'employer at the time of the incident' and the 'location of the incident' was not recorded in relation to fitness to practise allegations until 2007, accounting for the lack of analysis that could be carried out on this data. These data requirements are part of the recently launched next iteration of the Fitness to Practise Case Management System (FTP CMS).

3.2 Many of the issues described on the previous page are historic data issues which would not affect any similar analysis in the future.

3.3 In addition, it is worth noting the relatively small fitness to practise case data set for this work, meaning that the 'raw' numbers for some variables were very small indeed.

4. Discussion of findings

4.1 The report made the following findings about the predictors of an increased likelihood of a case being well founded and a sanction being applied at a hearing.

- Age, male gender, grandparenting application route and registration year within the last 10 years were found to be predictors.

- A statistical model was used to look at the independent effect of each factor (i.e. in order to discount those which were not significant variables on their own). Age was not found to be a significant independent predictor.

- Male gender and grandparenting application route were found to be significant independent predictors with the strongest relationships to case outcomes.

4.2 There are both similarities and differences between these findings and the trends identified in the fitness to practise annual reports. This partly reflects the challenges of putting together a control data set which is reflective of all the key variables. It also reflects that in this exercise we are only looking at fitness to practise cases that reached a hearing with an outcome, whereas the fitness to practise annual report reports against fitness to practise allegations (some of which may not progress to hearing or result in an outcomes which is included in this analysis), as well as against case outcomes. This exercise was also about reaching conclusions about significance, rather than simple data observation.

4.3 One interesting finding is that registration via grandparenting was a significant predictor of a fitness to practise case. This contrasts to the data in the fitness to practise annual reports which has consistently shown no significant difference between the proportion of registrants registered via this route and the proportion of allegations received. The small data set for this variable limits the reliability of this finding. This is acknowledged in the report - just 2.5% of fitness to practise cases in the sample were about registrants who registered via grandparenting and only around 0.04% of the control data set registered in this way.

4.4 The finding that male gender was a strong predictive factor mirrors previous data analysis. Although men account for the minority of registrants in many professions, they are over-represented in fitness to practise allegations. We have previously found that men are more likely to be subject to a fitness to practise allegation than might be suggested by their proportion on the Register in each and every profession.

4.5 An interesting finding was that registration within the last 10 years was a predictive factor. However, as previously explained, this cannot be assumed to be a proxy for date of qualification or for age. The report further acknowledges that factors such as the registration of new professions at fixed points and the historic time-limited nature of grandparenting complicated the selection of the control group and reduced the reliability of this finding.

4.6 Age was discounted as a significant independent predictive factor. This is a useful finding. Based on 2007-08 data, we previously reported that registrants in the 40-59 age group were subject to more allegations than might be expected by their proportion on the Register. Registrants in the 20-39 were less likely to be subject to an allegation.

5. Conclusions

5.1 This exercise has not been as successful as perhaps might have been anticipated at the outset. However, it has built-on and in many cases verified the comprehensive descriptive statistics we already report on.

5.2 This analysis might be built on in future years and benefit from much more complete data sets. In addition, the learning from this exercise will be taken forward in planning the forthcoming analysis of CPD audit data.

Predictors and outcomes of the fitness to practise process for the Health and Care Professions Council

Report prepared by
Lesley Smith
for Health and Care Professions Council

Background

The Health and Care Professions Council (HCPC) is a regulatory body with a remit to protect the public. To do this, the HCPC keeps a register of health, psychological and social work professionals who meet their standards in relation to behaviour, health, professional skills, and education and training. The HCPC Register opened on 9 July 2003.[1] Before this the Council for Professions Supplementary to Medicine (CPSM) ran a system of registration and 'discipline' that differed from the current HCPC system. As of March 2010 there were 205,311 professionals on the Register, and the number is currently 313,703,[2]

The professions regulated by the HCPC in the period covered by this report are: arts therapists, biomedical scientists, chiropodists/podiatrists, clinical scientists, dietitians, occupational therapists, operating department practitioners, orthoptists, paramedics, physiotherapists, practitioner psychologists, prosthetists/orthotists, radiographers and speech and language therapists. Hearing aid dispensers and social workers in England became registered by the HCPC in 2010 and 2012 and therefore data from these groups is not included in this report.

One of the main functions of the HCPC regarding protection of the public involves taking action when professionals on the register do not meet the required standards of education and training, professional skills, conduct, performance, ethics or health. It is the role of the Fitness to Practise Department to manage concerns and allegations from employers, the public or any other source about a registrant's fitness to practise.

Once a concern is raised the process involves verifying that it meets a minimum standard of acceptance. A concern is then classified as an allegation if it meets the acceptance criteria. The first process involves an Investigating Committee Panel (ICP) deciding whether there is a case to answer based on all of the

[1] The HCPC was known as the 'Health Professions Council' before 1 August 2012. This report uses HCPC throughout.
[2] Statistics correct as of 1 November 2012
http://www.hcpc-uk.org/aboutregistration/theregister/stats/

available information. They have to be satisfied that there is a realistic prospect that the registrant's fitness to practise may be found to be impaired. If they decide that there is a case to answer, they can refer the allegation for consideration by the Conduct and Competence Committee (for matters concerning lack of competence, misconduct and convictions and cautions); the Health Committee (for allegations related to a registrant's health); or the Investigating Committee (for allegations that an entry in the Register has been fraudulently procured or incorrectly made).

If the ICP finds that there is no realistic prospect that the registrant's fitness to practise is impaired then this will result in finding that there is 'no case to answer'. No further action will then be taken in relation to that allegation (see Figure 1).

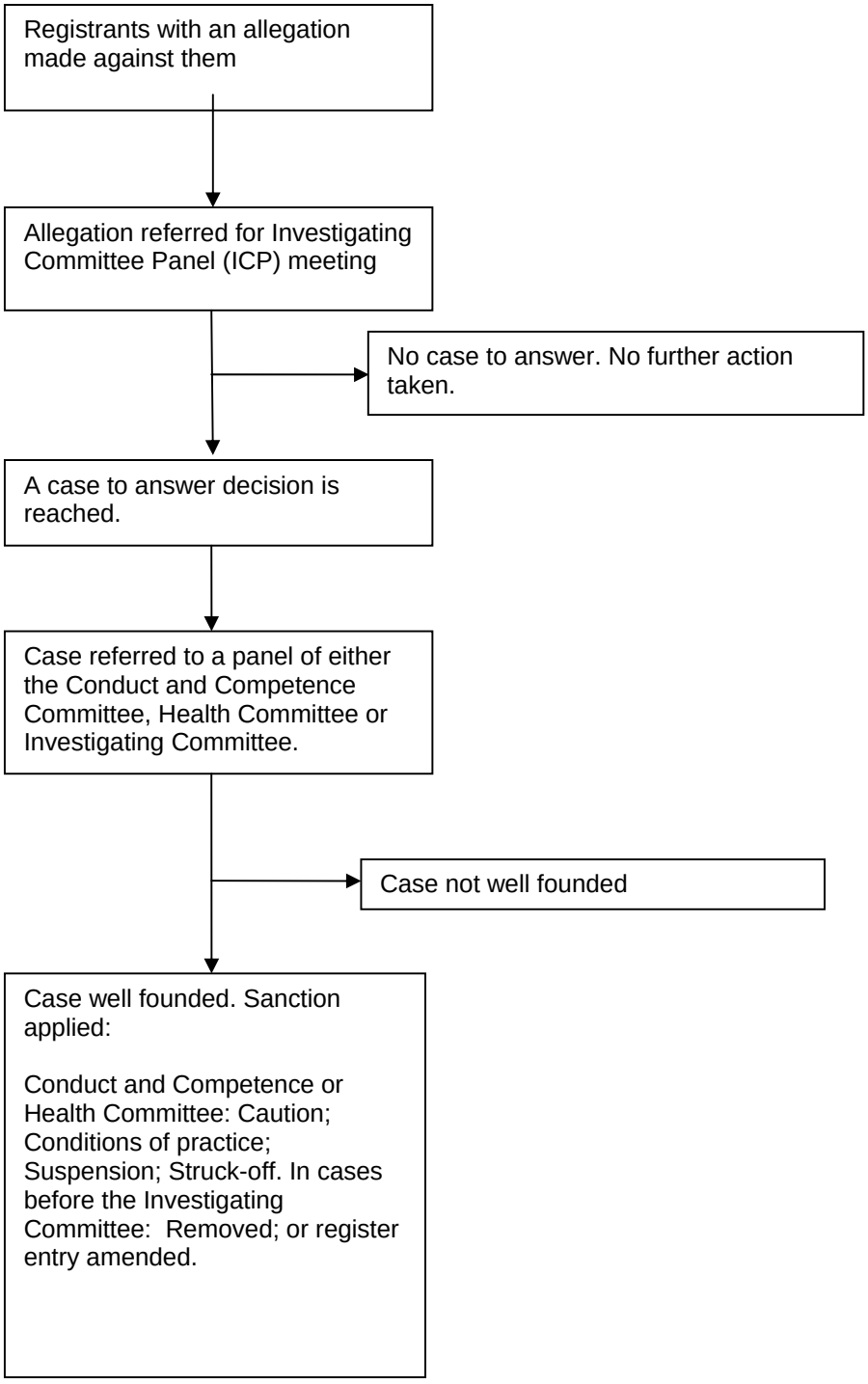


Figure 1 Outline of the sequence of events during the fitness to practise process.

Methods

1.1 Design

This study comprised a case control study. A case control study is a retrospective study design whereby a group of individuals with a particular outcome of interest are selected and examined backwards in time for factors that might have caused the outcome. These are called the cases. Another group of individuals without the outcome are selected as controls and similarly examined for the presence or absence of the same factors. If the proportion of individuals with a particular factor is higher in the cases than the controls, then the exposure is associated with an increased risk of the outcome.

The challenge in conducting a case control study is selecting an appropriate control group – they should come from the same population as the cases and be similar on important aspects except for not having the outcome in question. With a case control study we are interested in exploring the relation between a particular factor (variable) and the outcome of interest. For example, we may want to know if an individual's age is related to having a fitness to practise allegation. Firstly the relation is explored crudely in a so called univariate analysis where we are looking to see if the one particular factor is predictive of the particular outcome. However, due to imbalances or differences between cases and controls in other factors, such as gender and profession a multivariate analysis is required which takes this into account. A multivariate analysis is a way of estimating the predictive effect of one factor such as age whilst controlling for the influence of other factors.

Case control studies have several advantages over prospective study designs where individuals are recruited before the outcome of interest has occurred and followed forwards in time to measure the incidence of the outcome of interest. The advantages of case control studies include providing a quicker answer to the research question as the outcome has already occurred in the individuals of interest, and fewer individuals are required in order to examine the relationship

between potential predictive factors and outcomes that occur rarely or at a low rate such as fitness to practise cases well founded. The cases and controls selected for this study are described below.

1.2 Participants

Cases:

The cases used in this study comprised individuals on the HCPC Register with fitness to practise allegations which have reached a final hearing and where the case has been well founded and a sanction applied: caution; suspension; conditions of practice; or striking-off order. Cases were selected if the final hearing decisions were reached between opening of the HCPC register on 9 July 2003 and the end of 2009.

A registrant may have had more than one allegation made against them at different time points, but also may be the subject of multiple allegations considered at a single final hearing.

The data excludes the small number of cases in this time period concerning allegations that an entry in the Register had been fraudulently procured or incorrectly made considered at hearings of the Investigating Committee. These cases were excluded as they are very small in number and result in different sanctions (no further action; register entry removed; or register entry amended) from the cases included in this study.

This study also excludes cases where a panel found a registrant's fitness to practise impaired at a final hearing, but decided to take no further action.

Controls:

Controls were selected by running a report to identify all those registrants who never had a fitness to practise status in the same time period as the cases (July 2003 to December 2009). Registrants were excluded if they had an allegation which did not reach a final hearing; the case was not well founded at hearing; or impaired fitness to practise was found at hearing but no further action was taken. To be included as a control individuals had to be on the register, rather than became registered, during the period 1990 to end of 2009, and, in order to be consistent with the fitness to practise cases, individuals with a date of qualification before 1975 were excluded. Around 1% of each profession were randomly sampled. Individuals were not excluded on the basis that data were missing for one or more data fields. Data fields were: profession, gender, application date, date of first registration, application route, date of qualification and age (derived from date of birth). The control data set was collected in September 2011. Therefore, the controls constitute a quasi-random (systematic) sample of 6,288 professionals on the register with no fitness to practise allegation made against them during the same time period as case selection.

1.3 Data collection

Data were derived from reporting from HCPC registration system, Netregulate and the Fitness to Practise Case Management System (CMS).[3] Where there were discrepancies in data, these were manually checked. Manual checking and data entry was undertaken to ensure that the date of registration figures were accurate. The fitness to practise data set was compiled in August 2010, with additional data entry and data checking undertaken in August 2011.

The following variables for cases and controls were collected age, profession, gender, application route, date of registration, date of qualification, and date of application; and for cases only: employer at the time of the incident, where the

[3] Please note. A new Fitness to Practise Case Management System (CMS) has subsequently been introduced including new reporting arrangements. The data included in this report used data from the old system.

incident occurred, source of allegation, type of allegation and the sanction imposed. The employer at the time of the incident and the location of the incident was not collected until 2007. Data cleaning involved excluding entries with a date of birth of 1901, 1902, 1903 or 1904 as this coding error was due to a historic data migration issue from the previous registration system operated by the CPSM.

Multiple allegations relating to the same episode for a single professional were grouped and treated as one allegation. If multiple allegations were made relating to different episodes on separate occasions these were treated as separate cases.

1.4 Analysis

Data were analysed using SPSS (version 19). Frequencies for categorical data such as professional group were calculated and summarised as the number and percentage. Continuous data such as age was summarised as an average (mean) with the variability around the mean described by the standard deviation (SD) after assessing the distribution of the data to verify that this was the appropriate way to summarise the data.

Missing data were not imputed and were excluded from the analysis. Differences between age of cases and controls were compared using an independent T-test, which compares the mean age of participants between the two groups. Differences between categorical variables were assessed using the Chi square test which compares cases and controls with respect to the proportion of individuals who are in a particular category such as male gender. Logistic regression was used to evaluate the relation between predictor or explanatory variables such as age, sex and profession and the outcome or dependent variable, which was whether the outcome was a case well found or not (control). The results produced by the logistic regression indicate the strength of the relationship. Weak relationships equate to small effects and strong relationships equate to large effects. A multivariate analysis was conducted whereby analyses

were adjusted for gender, age, application route (UK, International, Grandparenting) and registration year (< 10 years ago, 10 years or more ago). The purpose of adjustment is to examine the independent effect of one predictor on the outcome whilst controlling for the effects of other predictors.

Results

There were 596 records of allegations available for analysis. The allegations relate to 580 individuals from 14 different health professions. For 10 of the registrants, multiple allegations were made which were combined and considered at one fitness to practise hearing. A single decision was made relating to the combined allegations so they are counted as a single case for the purpose of this analysis. Sixteen registrants had multiple allegations which were considered at separate fitness to practise hearings with separate decisions recorded so are considered as separate cases for the analysis.

1.5 Age and gender

Registrants with a case to answer were on average almost two years older than those on the register with no impairment (controls). The difference in mean ages was 1.9 years (95% confidence interval: 1.1 to 2.6 years) which was statistically significant ($p<0.001$). Cases were also more likely to be male. Seventy per cent of cases involved male professionals, whereas only 29% professionals in the control group were male (see Table 1). This difference was significantly different between cases and controls, $p< 0.001$.

Table 1: Demographic characteristics of cases and controls

	Cases (N = 596)	Controls (N = 6,288)
Age (years)		
Mean (SD)	44.9 (9.6)	43.0 (9.2)
Range	25 - 71	23 - 76
Sex (%)		
Male	417 (70.1)	1,793 (28.9)

Female	178 (29.9)	4,401 (70)

SD = standard deviation; 578 cases analysed for age; 595 cases analysed for gender; 6,194 controls analysed for gender

1.6 Professional group

About 28% of the allegations involved paramedics, whereas just fewer than 12% of the control group were paramedics. An association was also seen for operating department practitioners with a higher proportion of allegations for this professional group compared with the control group. In contrast, other professional groups had a lower proportion of allegations compared with their representation in the control group (see Table 2).

Table 2: Analysis by Professions

	Cases N = 596	Controls N = 6,288
Paramedics	165 (27.7)	751 (11.9)
Physiotherapists	97 (16.3)	978 (15.6)
Operating department practitioners	69 (11.6)	444 (7.1)
Occupational therapists	64 (10.7)	811 (12.9)
Radiographers	60 (10.1)	839 (13.3)
Biomedical scientists	53 (8.9)	675 (10.7)
Chiropodists/podiatrists	40 (6.7)	422 (6.7)
Speech & language therapists	18 (3.0)	616 (9.8)
Dieticians	10 (1.7)	281 (4.5)
Clinical scientists	7 (1.2)	204 (3.2)
Prosthetists/orthotists	6 (1.0)	66 (1.0)
Arts therapists	5 (0.8)	131 (2.1)
Orthoptists	1 (0.2)	62 (1.0)
Practitioner psychologists	1 (0.2)	8 (0.1)

1.7 Application route to registration

Almost 77% of the allegations were for professionals who registered through the UK, whereas 89% of controls were registered through the UK. Just fewer than 10% of cases were registered via the international route, whereas 11% of controls were registered via the international route. Just over 2% of cases were registered via the grandparenting route, compared with only 3/6,288 (0.0005%) of the control group (Table 3). Overall, the likelihood of being a case or control was significantly different according to application route with grandparenting route associated with a higher likelihood of being a case rather than a control <0.001).

For 12% of the allegations, the application route was not reported (see Table 3). This could influence the interpretation of the findings if these allegations are not distributed evenly across the three categories, but are associated with one or two of the categories more than another.

The control data set does not reflect the proportion of individuals registered via the grandparenting route on the HCPC register which for 2009-2010 was 2%. For most professions grandparenting took place between 2003 and 2005 which would lead to fewer registrants in our control sample registered via this route.

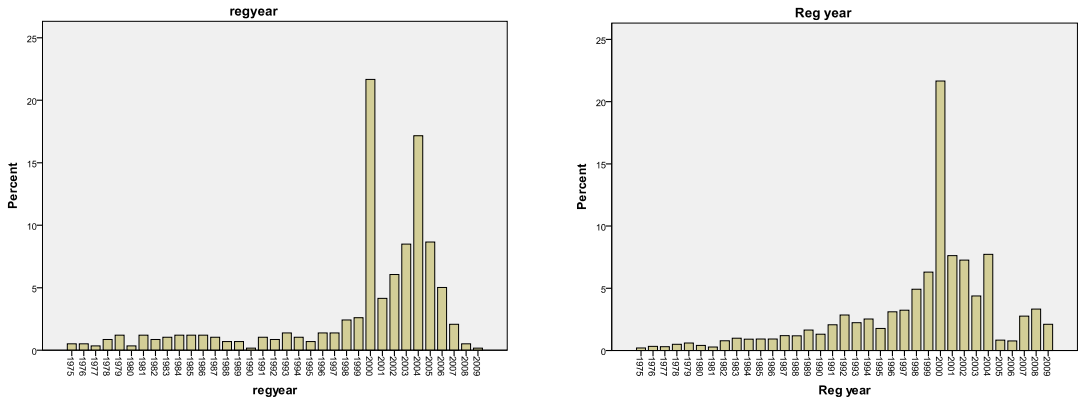
Table 3: Application route to registration

	Cases N = 525	Controls N = 6,288
UK	458 (87.2)	5,607 (89.2)
Grandparenting	13 (2.5)	3 (0)
International	54 (10.3)	678 (10.8)

Missing data for 71 cases

1.8 Date of registration

Figure 2a, and b shows the trends in registrations across the years from 1975 to 2009 for cases and controls. The majority of the cases were registered from 2000 onwards, whereas for the controls, whilst there were more that were registered from 2000 onwards, the pattern is less pronounced. For both cases and controls a peak during 2000 is shown representing about 21% of the registrants.



a) Cases b) Controls

Figure 2: Trends in the proportion of registrations by year

These data suggests that those that registered within the last 10 years have a greater likelihood of being a case, compared with registrants that registered more than 10 years ago (Table 4) ($p<0.001$).

One possible explanation for this could be that the professions that we found to be associated with being a case first became registered in more recent years (for example, paramedics joined the CPSM register in 2000). Additionally, and as a result of this, date of registration could not be interpreted as a proxy for date of qualification (where this data was not available; see below).

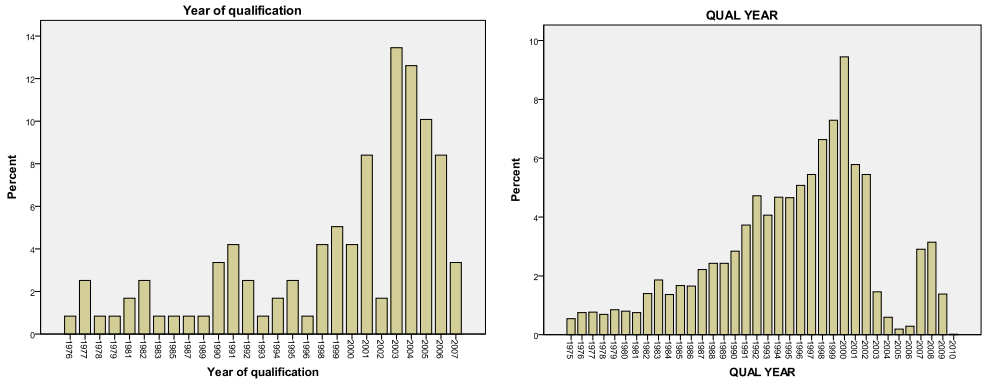
Table 4: Date of registration for cases and controls

	Cases N = 577	Controls N = 6,271
< 10 years ago	427 (74.0)	3,666 (58.5)
10 - 20 years ago	75 (13.0)	1,903 (30.3)
> 20 years ago	75 (13.0)	702 (11.2)

Missing data on date of registration: Cases = 19 missing; Controls = 17 missing

1.9 Date of qualification

For year of qualification we only have data recorded for 119/588 (20%) of the cases, compared with most (99%) of the controls. There is a large proportion of missing data as date of qualification was not always recorded by the CPSM, predecessor to the HCPC, and for those where an approved qualification was not a requirement such as those registered historically or via the grandparenting route. There is a trend towards an increase in the proportion of cases that were qualified from 1975 to 2004 which then decreases sharply. For controls the trend also increases from 1975 but peaks earlier at 2000 then decreases sharply (Figure 3a and b).



a) Cases b) Controls

Figure 3: Trends in the proportion of registrations by qualification year

Table 5 shows the proportion of cases and controls for the year of qualification categorised into three bands: < 10 years ago, 10-20 years ago and > 20 years ago. Again, cautious interpretation of the data is advised due to the high proportion of missing data.

Table 5: Date of qualification for cases and controls

	Cases N = 119	Controls N = 6,225
< 10 years ago	74 (62.2)	1,909 (30.7)
10 - 20 years ago	30 (25.2)	3,059 (49.1)
> 20 years ago	15 (12.6)	1,257 (20.2)

Missing data on date of qualification: Cases = 477 missing; Controls = 63 missing

Year of qualification was not available for three professional groups: prosthetists/orthotists, orthoptists and practitioner psychologists. With respect to practitioner psychologists, this can be accounted for by the absence of this data field in the data migrated from the professional body at the point at which this profession first became registered. This does not account for all the missing data as only eight cases were from these three professional groups (Table 2). For all other professional groups except operating department practitioners, more cases were qualified within the last 10 years (Table 6).

Table 6: Date of qualification for cases by profession

Profession	Year of qualification			
	< 10 years ago	10 - 20 years ago	> 20 years ago	Total
Arts therapists	1	0	0	1
Biomedical scientists	6	1	0	7
Chiropodists/podiatrists	3	0	0	3
Clinical scientists	1	0	1	2
Dieticians	5	0	0	5
Operating department practitioners	12	23	14	49
Occupational therapists	12	1	0	13
Paramedics	9	1	0	10
Physiotherapists	14	2	0	16
Radiographers	8	2	0	10
Speech & language therapists	3	0	0	3
Total	74	30	15	119

1.10 Investigation of factors that may predict the likelihood of being a case well founded

A univariate analysis was conducted that looked at each potential predictive factor in turn and the likelihood of being a case (crude Odds Ratio (OR). The four factors that were significantly associated with an increased likelihood of a case being well founded were age, male gender, grandparenting application route and registration year within the last 10 years. The next step was to look at these factors in turn, whilst taking into account (adjusted OR) the effects of the other three factors (multivariate analysis). In this way the independent effect of each factor is investigated. When all four factors were added to a statistical multivariate analysis, age was no longer an independent significant predictor, but the remaining three factors remained significant. The results for the crude and adjusted odds ratios are shown in Table 7. The crude OR reflects the result by looking at each factor alone (univariate analysis), whilst the adjusted OR reflects the result of the multivariate analysis. Being male and registration via the grandparenting route were large effects, however the wide confidence interval around the OR estimate for the grandparenting route indicates the extent of the uncertainty around the estimate.

Table 7 Crude and adjusted odds ratios of case well found versus control (no case) for age, gender, application route and registration year

Explanatory factor	Number analysed Cases/controls	Crude OR (95% CI)	P - value	Adjusted OR (95% CI)	P - value
Age	578/6,287	1.02 (1.01, 1.03)	< 0.001	0.99 (0.98, 1.0)	0.209
Gender					
Female	595/6,194	1.0		1.0	
Male		5.8 (4.8, 6.9)	< 0.001	5.7 (4.6, 7.1)	< 0.001
Application route					
UK	525/6,288	1.0		1.0	
Grandparenting		53 (15.1, 187)	< 0.001	27.1 (6.9, 106)	< 0.001
International		0.98 (0.73, 1.3)	0.866	0.82 (0.60, 1.12)	0.21
Registration year					
< 10 years	577//6,271	1.0		1.0	
≥ 10 years		0.5 (0.41, 5.6)	< 0.001	0.57 (0.46, 0.72)	< 0.001

1.11 Details of the incident - date of allegation

The proportion of incidents increased from 2001 reaching a peak in 2007, and then declined again (Table 8 and Figure 4). These trends are based on data for 425/596 (71.3%) cases as data were missing for the remainder. **Table 8: Date of allegation**

	Frequency	Percent
2001	1	0.2
2003	20	4.7
2004	48	11.3
2005	64	15.1
2006	79	18.6
2007	108	25.4
2008	79	18.6
2009	26	6.1
Total	425	100.0

Missing data for 171 cases

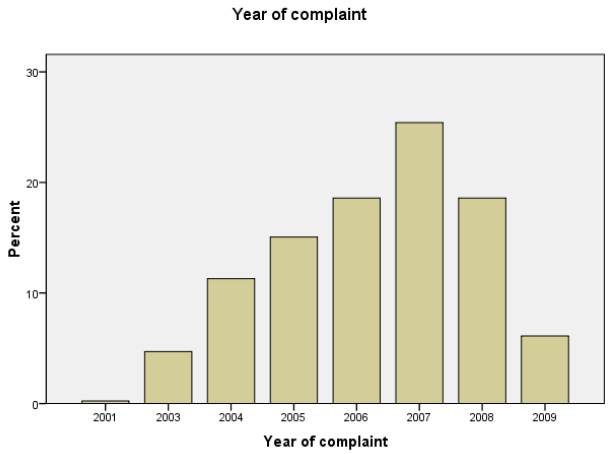


Figure 4: Trends in the proportion of allegations by year

1.12 Employer at time of incident

Information on the employment status of the case at the time of the incident was available for just under 219/596 (45%) of cases. The high proportion of missing data for this field is because it was only recorded from 2007 onwards. For these cases, the majority (82.6) were employed within the NHS with private practice/self-employed as the second most common employer (Table 9).

Table 9: Employer at the time of the incident

	Cases (N = 265)
NHS	219 (82.6)
Local authority	2 (0.008)
Armed forces	1 (0.004)
Private practice/ Self-employed	38 (14.3)
Unemployed	5 (0.002)

1.13 Where the incident occurred

Information on where the incident occurred was available for just 30.2% (180/596) of the cases. Again, these data were only recorded from 2007 onwards accounting for the high proportion of missing data for this field. For these cases, the majority (61.1%) of incidents occurred in an NHS setting, with a non-work setting as the second most common place for the reported incident (Table 10).

Table 10: Setting where the incident occurred

	Cases (N = 180)
NHS setting	110 (61.1)
Other public sector setting	19 (10.6)
Independent healthcare setting	14 (0.8)
Patient's home	8 (0.4)
Non-work setting	29 (16.1)

1.14 Complainant

Information on who made the allegation was recorded for all cases. The employer was the most common complainant (Table 11), and just fewer than 15% of allegations were made anonymously. For each of the different complainants, there is a trend towards an increase in the proportion peaking around 2006 to 2008 and then declining (Figure 9, Figure 10).

Table 11: Source of the allegation

	Anonymous (Article 22(6)	Employer	Police	Professional body	Public	Registrant	Other
2001	0	2 (0.5)	0	0	0	0	0
2002	0	2 (0.5)	0	0	0	0	0
2003	1 (1.2)	24 (5.7)	1 (3.1)	1 (10.0)	2 (8.0)	0	0
2004	9 (10.5)	47 (11.2)	2 (6.3)	2 (20.0)	4 (16.0)	1 (7.1)	1 (14.3)
2005	22 (25.6)	62 (14.8)	2 (6.3)	2 (20.0)	4 (16.0)	2 (14.3)	2 (28.6)
2006	12 (14.0)	97 (23.1)	6 (18.8)	2 (20.0)	7 (28.0)	1 (7.1)	0
2007	21 (24.4)	76 (18.1)	5 (15.6)	1 (10.0)	1 (4.0)	5 (35.7)	0
2008	15 (17.4)	86 (20.5)	11 (34.4)	2 (20.0)	4 (16.0)	4 (28.6)	3 (42.9)
2009	6 (7.0)	24 (5.7)	5 (15.6)	0	3 (12.0)	1 (7.1)	1 (14.3)
Total	86 (14.5)	420 (70.7)	32 (5.4)	10 (1.7)	25 (4.2)	14 (2.4)	7 (1.2)

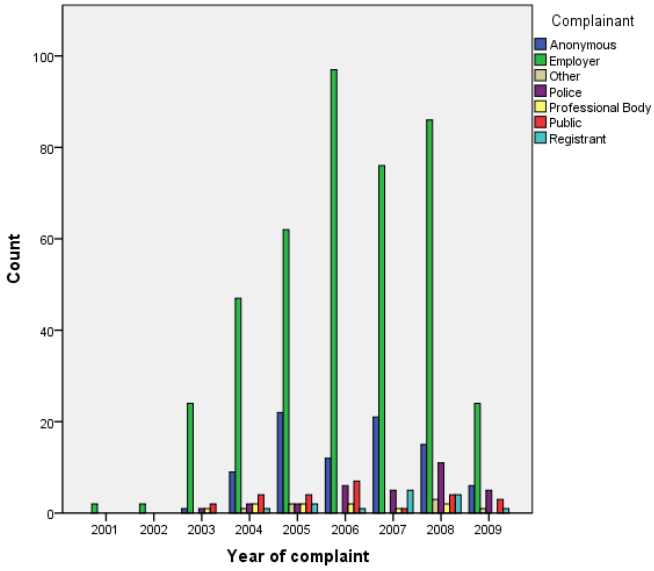


Figure 5 Trends in who the complainant was made by year

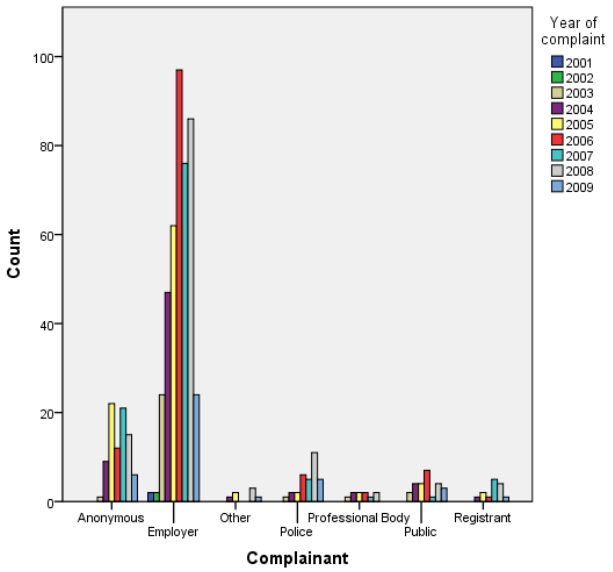


Figure 6 Trends over time in allegations made by the different categories of people

1.15 Type of allegation

Data were available for type of allegation for all cases. Misconduct being the most common type of allegation followed by lack of competence/misconduct (Table 12). For each of the different categories of allegation, there is a trend

towards an increase in the proportion peaking around 2006 to 2008 and then declining (Figure 7, Figure 8).

Table 12: Type of allegation

	Cases (N = 596)
Misconduct	240 (40.3)
Lack of competence/misconduct	152 (25.5)
Conviction/caution	104 (17.4)
Lack of competence	77 (12.9)
Health	18 (3.0)
Determination by another regulator	4 (0.7)

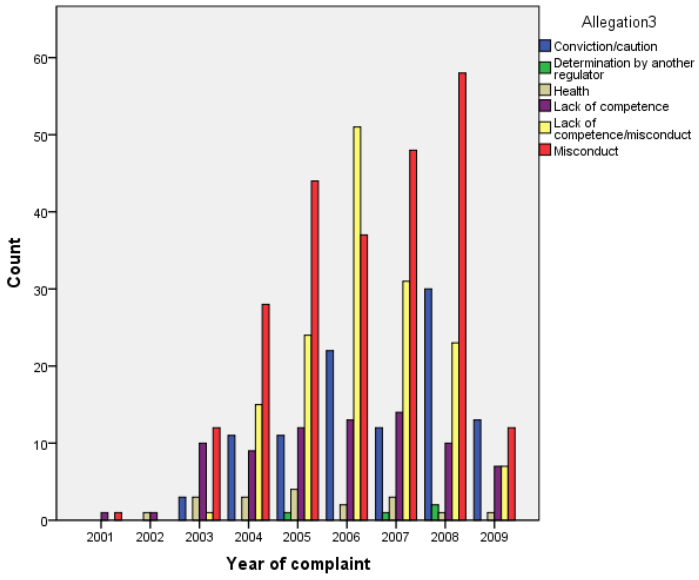


Figure 7 Trends in the type of allegation made by year

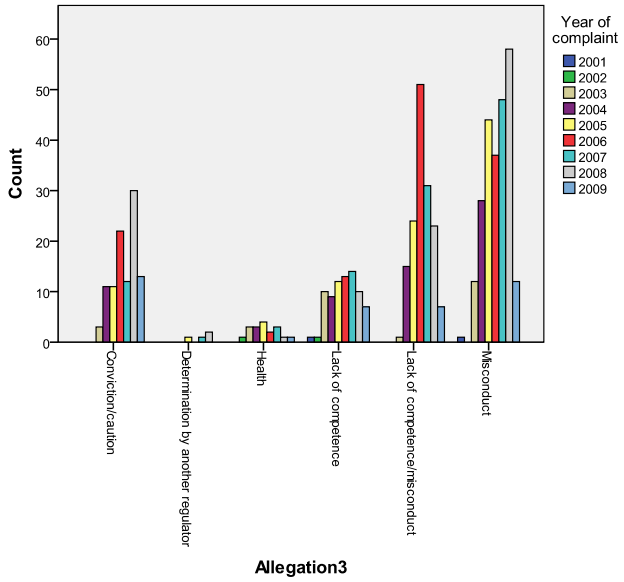


Figure 8 Trends over time made in the different categories of allegations

1.16 Sanctions imposed

The consequences of the allegation and subsequent hearing resulted in just over a third of cases being struck off, and caution or suspension accounting for the just over a quarter of the cases each (Table 13). For each of the sanctions, there is a trend towards increase in sanction imposed peaking around 2006 to 2008 and then declining (Figure 9, Figure 10).

Table 13: Sanctions imposed following investigation

	Caution	Conditions of practice	Struck- off	Suspension
2001	1 (0.6)	0	0	1 (0.6)
2002	0	1 (1.5)	0	1 (0.6)
2003	4 (2.5)	7 (10.3)	5 (2.4)	13 (8.2)
2004	15 (9.4)	13 (19.1)	18 (8.7)	20 (12.6)
2005	28 (17.6)	7 (10.3)	29 (13.9)	32 (20.1)
2006	34 (21.4)	13 (19.1)	49 (23.6)	29 (18.2)
2007	21 (13.2)	13 (19.1)	46 (42.2)	29 (18.2)
2008	39 (24.5)	10 (14.7)	52 (25.0)	24 (15.1)
2009	17 (10.7)	4 (5.9)	9 (4.3)	10 (6.3)
Total	159 (26.7)	68 (11.4)	208 (35.0)	159 (26.8)

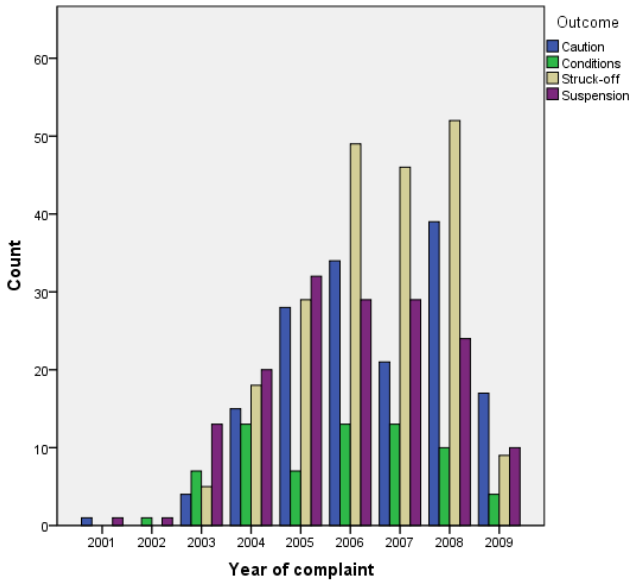


Figure 9 Trends in the type of sanction imposed by year

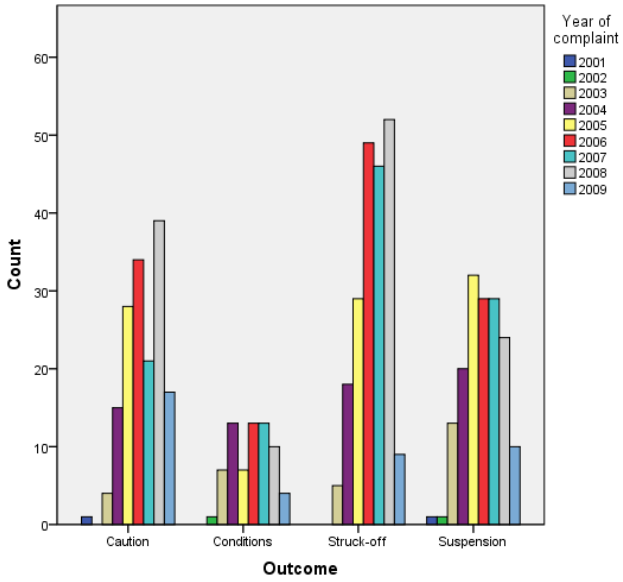


Figure 10 Trends over time made in the different categories of sanction

Discussion and conclusions

The overall prevalence of cases which were well founded was 596 over the nine and a half year period in the study. These cases relate to 580 individuals from 14 different health professions. Sixteen individuals had multiple incidents recorded against them that occurred on separate occasions therefore were considered as different cases.

Details relating to the incident case were incompletely recorded for the date the allegation occurred, the employer at the time of the incident and where the incident occurred. The percentage of missing data for these variables ranged from 29 to 70% as data were only recorded from 2007 onwards. This limited the analyses that could be conducted investigating these factors. The majority of the cases involved NHS employees in NHS settings with the allegation made by the employer.

The univariate analyses showed that the likelihood of being a case well founded was associated with several factors.

The likelihood was higher for paramedics and operating department practitioners.

The likelihood was also associated with being male of older age and with a date of registration < 10 years ago. Data were too sparse to reliably investigate the effect of date of qualification. However the results suggest that a higher proportion of cases were qualified in the last 10 years.

The other factor that was found to be a significant predictor was if the registrant had been registered via the grandparenting route compared with the UK route. However the extent of the increased likelihood is unclear due to the large degree of uncertainty around this estimate. It is unclear the extent to which these factors were acting independently as some factors were correlated with another factor. For example, men in the sample were significantly older (46.5 years) than women (41.5 years) in the sample: mean difference 5.0 years (95% confidence interval (CI): 4.5, 5.4). Eighty per cent of the paramedics and 58% of the operating department practitioners were male. Although two other professional groups were not associated with an increased likelihood of being a case, clinical scientists and prosthetist/orthotists, despite being predominantly male with 59% and 70%, respectively. All other professional groups were predominantly female. Registrants that were entered via the grandparenting route were older (mean 52 years) than UK registrants (43.6 years): mean difference 8.5 years (95% CI: 4, 13.1) and a high proportion were male (81%) also. Chiropodists/ podiatrists, paramedics and physiotherapists had a higher proportion of registrants via the grandparenting route compared with the UK and for Chiropodists also a higher proportion via the grandparenting route than via the international route.

One surprising finding was that registrants registered within the last 10 years were more likely to be well founded cases compared with registrants registered more than 10 years ago. Registration within the last 10 years was correlated with profession, gender and route of registration so these factors may account for some of the effect. Paramedics, operating department practitioners, speech and

language therapists and clinical scientists all registered within the last 10 years. For the other professions there were a higher proportion of registrants who registered more than 10 years ago, with the exception of chiropodists/podiatrists A higher proportion of males registered in the last 10 years than more than 10 years ago and all registrants that registered via the grandparenting route were registered in the last 10 years, and mainly between 2003 and 2005 for most professions.

Due to the fact that some professions first became registered following a migration of data from a voluntary register which may not have held data from some data fields, some years had clusters. For example: Arts therapists were first registered in 1999, paramedics and speech and language therapists were first registered in 2000, ODPs first became registered in 2004 and practitioner psychologists first became registered in 2010.

Taken together, these limitations highlight the difficulty of selecting a control sample to make a rigorous comparison with the cases.

Conclusions

The four factors that were significantly associated with an increased likelihood ofa case being well founded were age, male gender, grandparenting application route and registration year within the last 10 years. When all four factors were added to a statistical model, age was no longer an independent significant predictor, but the remaining three factors remained significant. Being male and registration via the grandparenting route were large effects, however the wide confidence interval around the OR estimate for the grandparenting route indicates the extent of the uncertainty around the estimate. There were a low number of cases registered via this route and under representation in the control sample.

This study has verified previous data published by the HCPC[4] which provides comprehensive descriptive statistics on the fitness to practise cases referred to the regulator. In addition, it provides a statistical analysis of the interaction of some of the key variables and how they interact as predictors of well-founded cases. However, this exercise has not yielded as complete an analysis as was anticipated, as some of the data required for this was missing at the time. Date of qualification (for applicants applying with a UK approved course) is now recorded routinely, but there remains a difficulty with incomplete historical data, much of it inherited from the CPSM. The HCPC's new Fitness to Practise Case Management System allows more fitness to practise data, such as the employer and setting where an incident occurred, to be recorded and reported. Complete collection of these data would allow more rigorous and in-depth analyses in the future.

[4]See HCPC Fitness to Practise Annual Reports
http://www.hcpc-uk.org/publications/reports/index.asp?startrow=21&action=step&sKeyword=&sCategory=&sSubCategoryIDs=&sAudienceID=&sDay1=&sMonth1=&sYear1=&sDay2=&sMonth2=&sYear2=