Analysis of fitness to practise case data for the General Dental Council

Appendix to February 2017 Report

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31st August 2017

CAMERA

Collaboration for the Advancement of Medical Education Research & Assessment

Contents

Summary

Following on from our analysis of fitness to practise (FtP) case data for the General Dental Council (GDC) reported in February 2017 we were asked by the Council to conduct further analyses to investigate five additional research questions. The results of these five additional analyses are presented in this addendum to the earlier report but the reader may wish to refer to that report for more details of the data sample and the methodology. Headline findings from the additional analyses are as follows:

1. For FtP cases against dentists, the likelihood that a case involved allegations in five of the 29 Consideration Subgroups (*Patient interests, Personal behaviour - Protecting patients from risks, Personal behaviour - Public confidence in profession, Personal behaviour – Other, Put patients' interests first - Indemnity*) was related to the dentist's route to registration.
   a. Cases against those in the 'Dentist Restoration' group were more likely than those against other dentists to involve considerations in the *Personal behaviour - Protecting patients from risks*, *Personal behaviour - Other* and *Put patients' interests first – Indemnity* subgroups.
   b. Cases against dentists registered through the UK Application route were less likely to involve considerations in the *Patient interests* subgroup.
   c. Cases against dentists from the EEA were less likely to involve considerations in the *Personal behaviour - Public confidence in profession* subgroup.

2. For FtP cases against all types of registrant, the likelihood that a case involved allegations in two of the 29 Consideration Subgroups (*Professional knowledge and skills - Training and competence, Put patients' interests first - Behaviour and attitude*) was related to the ethnicity of the registrant.
   a. Considerations in the *Professional knowledge and skills - Training and competence* subgroup were more likely to occur in cases involving white registrants but their incidence was the same in cases involving Asian registrants and those from other minority ethnic groups.
   b. Considerations in the *Put patients' interests first - Behaviour and attitude* subgroup were more likely to occur in cases involving Asian registrants but their incidence was similar in cases involving white registrants and those from other minority ethnic groups.

3. Larger proportions of DCP UK Applications and Dentist Assessment Application registrant FtP cases resulted in sanctions than cases associated with registrants following other routes to registration, but no association was found between sanction-or-not and Sex or Ethnicity. However, neither Sanction Group nor Sanction Severity were associated with Route to Registration, Sex, or Ethnicity.

4. Most FtP cases were raised by patient or service user informants, and this pattern was seen across all registrant Registration Route, registrant Sex, registrant Ethnicity, resulting FtP case Sanction group, and resulting FtP case Sanction Severity sub-groups.

5. For FtP cases against dentists, the likelihood that a case involved allegations about *Fillings* was related to the age and sex of the dentist, while the likelihood that it concerned allegations about *Crowns* was related to the dentist's route to registration. The incidence of cases involving eight other clinical particulars (*Examination, Extractions, Root canal treatments, Not following current evidence and best practice, Implants, Orthodontics, Bridges, Caries*) was unrelated to any of the six characteristics of the dentist (age, sex, ethnicity, time on register, route to registration or specialist status) that were investigated.

a. The likelihood that *Fillings* were a clinical particular in an FtP case decreased with the age of the dentist and was lower for male dentists compared to females.
b. The likelihood that *Crowns* were a clinical particular in an FtP case was lowest for those dentists registered via the UK Application route and highest for those entering via the Restoration route.

Introduction

Building on exploratory work conducted in 2015 by the Collaboration for the Advancement of Medical Education Research and Assessment (CAMERA) at the University of Plymouth to assess the quality of the fitness to practise (FtP) case data held by the GDC, the CAMERA team reported to the General Dental Council (GDC) in February 2017 on a series of statistical analyses of that data. In light of the findings presented in that report the GDC commissioned the CAMERA team to undertake further analyses to investigate five additional research questions (see below).

In this addendum to our February 2017 report, we briefly reiterate some of the salient features of the data that are relevant to these additional research questions before summarising the results of our analyses.

Research questions

1. Is there a relationship between route to registration and different types of consideration?

2. Is there a relationship between ethnicity and different types of consideration?

3. For cases closed at practice committee stage, is there a relationship between route to registration/ sex/ ethnicity and:
   a. any sanction recorded
   b. sanction categories A, B, C and D individually (see Table 2)
   c. a less serious sanction recorded (reprimand and conditions - category C and D sanctions)
   d. a serious sanction recorded (suspension and erasure - category A and B sanctions)

4. Is there a relationship between informant type and:
   a. Route to registration
   b. Sex
   c. Ethnicity
   d. sanction categories A, B, C and D individually
   e. a less serious sanction recorded at practice committee stage (category C and D sanctions)
   f. a serious sanction recorded at practice committee stage (category A and B sanctions)

5. For FtP cases against dentists, and for the ten most frequently arising clinical particulars, is the occurrence of those clinical particulars in a case related to the registrant's age, sex, ethnicity, time on register, route to registration or specialist status?

The data sample

The data sample used for these additional analyses was identical to that used for our February 2017 analysis and comprised four tables of data extracted from the GDC's FtP database on 31st May 2016:

1. FtP case information (N=8,855), including information on the registrant who was the subject of each case. This data set covered all cases that were either
   a. open on 1st September 2013, or
   b. received between 1st September 2013 and the date of data extraction
2. 'Considerations' data (N=16,461) relating to the above cases, detailing the subject matter of the allegation(s) being made against the registrants concerned

3. 'Decisions' data (N=26,648) relating to the above cases, detailing the decisions made at each of the case processing stages.
4. Registrant data (N=120,854), giving information on <u>all</u> dentists and dental care professionals registered with the GDC who were either
    a. On the register on 1st September 2013, or
    b. Joined the register between 1st September 2013 and the date of extraction.

Data quality

We reported briefly in our February 2017 analysis on the quality of the data sample but a particular note of caution relating to missing information is particularly pertinent to all five of the additional research questions in this appendix:

The only two characteristics with a substantial proportion of missing data that we did include were registrant ethnicity (missing for 31% of registrants) and route to registration (missing for 25% of registrants). It was felt important to include these characteristics in the relevant analyses under Themes A and C, though clearly the results must be treated with some caution.

Classification of the allegations (considerations) made in a case

In our February 2017 analysis we classified the allegations made in a case into 29 Consideration Subgroups. The rationale for this was explained in the February 2017 report (pp.11-12) but for convenience we have reproduced the complete classification in Table 1 below. Eighteen of the 29 subgroups were identified by the GDC as being of particular interest because they were the most frequently occurring in the data set or were of particular policy interest.

Table 1: Consideration Subgroups used for analysis.

#	Consideration Subgroup	Frequency in Considerations data
1	Clear and effective complaints procedure *	330
2	Communicating effectively *	1,023
3	Cooperating with dental team members	28
4	DCS Service Issue	122
5	Health	55
6	Illegal Practice ᵠ	12
7	Laws and regulations	85
8	Maintain and protect patients' information *	1,327
9	Obtain valid consent *	583
10	Patient interests *	1,123
11	*Personal behaviour - Protecting patients from risks* *	422
12	*Personal behaviour - Public confidence in profession* *	1,575
13	*Personal behaviour - Other*	333
14	*Probity - Caution / charge / conviction* *	102
15	*Probity - Other*	121
16	*Professional knowledge and skills - Failure to provide good quality care* *	5,193
17	*Professional knowledge and skills - Training and competence* *	322
18	*Professional knowledge and skills - Other*	105
19	*Put patients' interests first - Advertising* *	182
20	*Put patients' interests first - Behaviour and attitude* *	1,187
21	*Put patients' interests first - Indemnity* *	149
22	*Put patients' interests first - Laws and regulations* *	749
23	*Put patients' interests first - Treatment* *	562
24	*Put patients' interests first - Other*	59
25	Raising concerns	38
26	Respect patients' dignity and choices *	208
27	Scope of practice *	37
28	*Working with colleagues - Team working* *	277
29	*Working with colleagues - Other*	152
	All	16,461

* Subgroups of particular interest

ᵠ No longer a factor in FtP cases. Included for historic reasons.

Categorisation of registrants' ethnicity and route to registration

Registrants' ethnicity was classified into three categories:

a. White
b. Asian
c. Other

Registrants' route to registration was classified into nine categories:

a. DCP UK Application
b. DCP EEA Assessment
c. DCP Restoration
d. DCP Assessment (DCP Assessment Application, Non-EEA DCP Assessment Application)
e. Dentist UK Application
f. Dentist EEA Assessment
g. Dentist Restoration
h. Dentist Assessment (Dentists Assessment Application & Overseas Application)
i. Overseas Registration Examination

Types of informant

Informants were classified into nine categories:

a. Self-Referral
   b. Other Registrant
   c. Patient or Service User
   d. NHS
   e. Non-NHS Employer
   f. GDC
   g. Other Regulatory Body
   h. Anonymous
   i. Other

Categorisation of Sanctions

Where sanctions are categorised in to A, B, C, and D, they are derived from Practice Committee decisions as shown below in Table 2. These are further grouped into 'Serious' (Category A and B sanctions) and 'Less Serious' (Category C and D sanctions).

Table 2: Sanction Categories

Sanction Category	Practice Committee Decision
(A) Erasure	Erased
	Erased + Immediate suspension
(B) Suspension	Conditions revoked and suspension imposed
	Conditions revoked and suspension imposed (with a review)
	Suspended with immediate suspension
	Suspended with immediate suspension (with a review)
	Suspension Indefinitely
	Suspension
	Suspension (with a review)
	Suspension revoked
(C) Conditions	Conditions
	Conditions (with a review)
	Conditions with immediate conditions (with a review)
	Conditions extended (with a review)
	Conditions extended and varied (with a review)
	Conditions revoked
	Suspension revoked and conditions imposed (with a review)
(D) Reprimand	FTP impaired. Reprimand

Results

Question 1: Are the different types of consideration arising in a case related to the registrant's route to registration?

The appearance within the 7,526 FtP cases of registrants from the nine 'route to registration' categories is shown in Table 3 below. The registrant's route to registration was unknown or unrecorded in over 60% of cases and five of the nine categories appeared less than 100 times in the data; these are italicised in the table.

Table 3: FtP cases by the 'route to registration' of the registrant concerned

Registration Route	Frequency	Percent	Valid Percent
DCP UK Application	851	11.3	29.1
DCP EEA	*1*	*0.0*	*0.0*
DCP Restoration	*82*	*1.1*	*2.8*
DCP Assessment	*20*	*0.3*	*0.7*
Dentist UK Application	550	7.3	18.8
Dentist EEA	895	11.9	30.6
Dentist Restoration	468	6.2	16.0
Dentist Assessment	*48*	*0.6*	*1.6*
Overseas Registration Examination	*11*	*0.1*	*0.4*
Total non-missing	2,926	38.9	100
Missing	4,600	61.1	
Total	7,526	100	

The infrequency of cases involving registrants in these five route to registration categories means that many of the 29 Consideration Subgroups did not appear in those cases (Table 4).

Table 4: Cases by Consideration Subgroup (percentage within route to registration group).

					Route to Registration						
Consideration Subgroup	N cases:	DCP UK Application	DCP EEA	DCP Restoration	DCP Assessment	Dentist UK Application	Dentist EEA	Dentist Restoration	Dentist Assessment	ORE	All
		851	1	82	20	550	895	468	48	11	2,926
Clear and effective complaints procedure *		1.8	-	-	-	3.8	4.0	7.9	-	18.2	3.8
Communicating effectively *		3.2	-	2.4	15.0	11.8	11.6	11.8	14.6	9.1	9.0
Cooperating with dental team members		0.6	-	-	-	0.2	0.4	-	-	-	0.3
DCS Service Issue		1.1	-	1.2	-	0.5	1.2	0.9	-	-	1.0
Health		1.2	-	2.4	-	0.2	0.2	0.2	-	-	0.5
Illegal Practice		0.8	-	-	-	-	0.2	-	-	-	0.3
Laws and regulations		1.4	-	1.2	-	-	0.7	1.1	-	-	0.8
Maintain and protect patients' information *		5.1	-	4.9	10.0	14.0	17.9	16.9	14.6	9.1	12.7
Obtain valid consent *		0.4	-	-	-	5.8	5.9	9.0	4.2	-	4.5
Patient interests *		2.4	-	1.2	-	6.4	12.0	13.0	12.5	-	7.9
Personal behaviour - Protecting patients from risks *		8.6	-	13.4	10.0	4.0	2.6	7.1	-	-	5.6

	Route to Registration									
Consideration Subgroup	DCP UK Application	DCP EEA	DCP Restoration	DCP Assessment	Dentist UK Application	Dentist EEA	Dentist Restoration	Dentist Assessment	ORE	All
N cases:	851	1	82	20	550	895	468	48	11	2,926
Personal behaviour - Public confidence in profession *	37.8	-	40.2	15.0	16.9	10.7	16.9	16.7	9.1	21.7
Personal behaviour - Other	5.5	-	11.0	-	2.2	3.1	8.1	-	-	4.6
Probity - Caution / charge / conviction *	5.1	-	3.7	5.0	1.5	0.2	1.5	-	-	2.2
Probity - Other	2.8	-	7.3	10.0	0.2	0.9	2.4	-	-	1.8
Professional knowledge and skills - Failure to provide good quality care *	9.6	-	12.2	25.0	54.0	55.3	47.4	47.9	54.5	39.0
Professional knowledge and skills - Training and competence *	21.9	100	23.2	20.0	1.5	1.5	1.1	6.3	-	8.2
Professional knowledge and skills - Other	0.5	-	2.4	-	0.7	1.8	1.7	-	-	1.2
Put patients' interests first - Advertising *	5.4	-	8.5	-	0.5	3.0	2.4	4.2	-	3.3
Put patients' interests first - Behaviour and attitude *	7.2	-	13.4	15.0	14.5	15.6	13.7	20.8	9.1	12.6
Put patients' interests first - Indemnity *	5.2	-	11.0	-	0.5	1.8	6.6	4.2	18.2	3.7
Put patients' interests first - Laws and regulations *	8.5	-	2.4	15.0	6.4	9.5	6.8	6.3	18.2	8.0
Put patients' interests first - Treatment *	0.5	-	-	5.0	9.8	8.7	4.3	10.4	9.1	5.6
Put patients' interests first - Other	0.5	-	-	-	0.4	0.4	0.6	4.2	-	0.5
Raising concerns	0.9	-	1.2	-	0.4	0.7	0.9	-	-	0.7
Respect patients' dignity and choices *	0.8	-	1.2	-	0.7	2.5	2.4	2.1	-	1.6
Scope of practice *	3.8	-	-	5.0	0.2	0.1	-	-	-	1.2
Working with colleagues - Team working *	3.9	-	2.4	-	1.8	4.1	3.6	6.3	-	3.5
Working with colleagues - Other	1.6	-	2.4	-	2.9	1.5	2.1	-	-	1.9

The five infrequent route to registration categories could not be included in a statistically robust analysis of the relationship between the different types of consideration arising in a case and the registrant's route to registration. We therefore excluded these 162 cases from further analysis. The remaining four categories comprised three types of dentist and one type of DCP so the results that we then obtained tended to be driven to a large extent by differences between the DCP group and the dentists. Since we had already analysed differences in the considerations arising for cases involving either dentists or DCPs (Table 17 in our February 2017 report) we decided, in consultation with the GDC, to drop the 'DCP UK Application' group as well and hence focus on possible differences between cases involving the three main dentist groups.

Significant variation in the incidence of considerations between cases involving these three groups of dentists were found for five of the 29 consideration subgroups (Table 5). Cases against those in the 'Dentist Restoration' group were more likely than those against other dentists to involve considerations in the *Personal behaviour - Protecting patients from risks*, *Personal behaviour - Other* and *Put patients' interests first – Indemnity* subgroups. Cases against dentists registered through the UK Application route were less likely than other cases to involve considerations in the *Patient interests* subgroup while cases against dentists from the EEA were less likely to involve considerations in the *Personal behaviour - Public confidence in profession* subgroup.

Table 5: Cases against dentists by Consideration Subgroup (percentage within route to registration group). Only subgroups whose incidence was significantly associated with registrant route to registration are shown.

		Route to Registration			
		Dentist UK Application	Dentist EEA	Dentist Restoration	All
Consideration Subgroup	*N cases*	550	895	468	1,913
Patient interests *		6.4	12.0	13.0	10.6
*Personal behaviour - Protecting patients from risks *		4.0	2.6	7.1	4.1
*Personal behaviour - Public confidence in profession *		16.9	10.7	16.9	14.0
Personal behaviour - Other		2.2	3.1	8.1	4.1
*Put patients' interests first - Indemnity *		0.5	1.8	6.6	2.6

Question 2: Are the different types of consideration arising in a case related to the registrant's ethnicity?

In our February 2017 report we classified registrants' ethnicity into two groups: white and 'black or minority ethnic' (BME) and found that the pattern of incidence of considerations across the 29 subgroups were generally similar for cases involving either white or BME registrants. However, there were two consideration subgroups whose incidence in the FtP data differed significantly between the two types of registrant. Compared to cases involving a white registrant, those involving a BME registrant were:

- significantly less likely to involve considerations in the *Professional knowledge and skills - Training and competence* subgroup (1.0% vs. 5.5% respectively)
- significantly more likely to involve considerations in the *Put patients' interests first - Behaviour and attitude* subgroup (17.7% vs. 11.6% respectively).

Our additional analysis for Question 2 essentially re-examines this variation at a finer level of granularity by splitting the BME group into Asian registrants and those from other minority ethnic groups. Significant variation in the incidence of considerations between cases involving these three ethnic groups were again found for the same two of the 29 consideration subgroups (Table 6). The results show that:

- Considerations in the *Professional knowledge and skills - Training and competence* subgroup were more likely to occur in cases involving white registrants but their incidence was the same in cases involving Asian registrants and those from other minority ethnic groups.
- Considerations in the *Put patients' interests first - Behaviour and attitude* subgroup were more likely to occur in cases involving Asian registrants but their incidence was similar in cases involving white registrants and those from other minority ethnic groups.

Table 6: Cases by Consideration Subgroup (percentage within Ethnic Group). Subgroups whose incidence was significantly associated with registrant ethnicity are emboldened in the table.

		Ethnic Group			
		White	Asian	Other	All
Consideration Subgroup	N cases	3,008	1,125	513	4,646
Clear and effective complaints procedure *		3.6	5.1	4.3	4.0
Communicating effectively *		10.3	12.4	10.7	10.9
Cooperating with dental team members		0.2	0.3	0.4	0.3
DCS Service Issue		1.3	1.2	0.8	1.2
Health		0.9	0.4	1.4	0.8
Illegal Practice		0.1	-	-	0.1
Laws and regulations		1.2	0.6	1.0	1.0
Maintain and protect patients' information *		15.5	12.6	14.6	14.7
Obtain valid consent *		6.5	5.0	8.2	6.3
Patient interests *		11.0	11.4	11.1	11.1
Personal behaviour - Protecting patients from risks *		6.1	4.2	5.5	5.5
Personal behaviour - Public confidence in profession *		17.8	16.2	17.9	17.4
Personal behaviour - Other		3.8	4.9	2.7	3.9
Probity - Caution / charge / conviction *		1.1	1.3	1.8	1.2
Probity - Other		1.7	0.9	1.6	1.5
Professional knowledge and skills - Failure to provide good quality care *		43.1	45.5	47.6	44.1
***Professional knowledge and skills - Training and competence* ***		**5.5**	**1.0**	**1.0**	**3.9**
Professional knowledge and skills - Other		1.7	1.1	0.6	1.4
Put patients' interests first - Advertising *		2.4	0.9	1.9	2.0
***Put patients' interests first - Behaviour and attitude* ***		**11.6**	**19.8**	**13.1**	**13.8**
Put patients' interests first - Indemnity *		2.5	1.7	1.8	2.2
Put patients' interests first - Laws and regulations *		9.0	7.2	6.4	8.3
Put patients' interests first - Treatment *		6.9	6.7	6.8	6.8
Put patients' interests first - Other		1.0	0.9	0.6	0.9
Raising concerns		0.7	0.4	0.8	0.6
Respect patients' dignity and choices *		2.1	3.1	0.6	2.2
Scope of practice *		0.7	0.2	-	0.5
Working with colleagues - Team working *		3.6	2.8	3.9	3.4
Working with colleagues - Other		1.9	1.5	2.7	1.9

Question 3: For cases closed at practice committee stage, is there a relationship between route to registration/sex/ethnicity and the imposition of certain types of sanction?

In order to explore this research question, the original FtP case data was subset to include only those cases closed (N=6,663), then further to include only those closed at Practice Committee[1] stage (N=561). This data was then combined with decisions data, merged by case identifiers (CASE_KEY), to create a combined dataset including FtP case information and decision information (N=1,371). Where cases had multiple decisions, all individual decisions were included in the following analyses. Where there were empty rows (i.e. where there were no registrants with a particular characteristic), these groups were excluded from the Chi-squared tests used to derive p-values. Furthermore, Chi-squared tests ran with 1,000,000 replicates to account for small cell-counts and empty cells.

[1] Practice Committee in this instance is defined, as in the main February 2017 report, as any of the following; Health Committee, Professional Performance Committee, Health Committee and IOC, or Professional Conduct Committee

Sanction Imposed (defined as a sanction of any category being imposed) by Registration Route, Sex, and Ethnicity

Cross-tabulation of registrant characteristics with whether a sanction was recorded or not shows that larger proportions of cases against DCP UK Application (27.1%) and Dentist UK Application (25.0%) registrants result in sanctions than cases against those following other routes to registration.

Table 7: Proportion of FtP cases resulting in sanctions, by registrant Registration Route, Sex, and Ethnicity

Factor	Level	N	Sanction Imposed (%)	p-value
Registration Route				0.038
	DCP UK Application	210	27.1	
	DCP EEA Assessment Application	-	-	
	DCP Restoration	39	17.9	
	DCP Assessment Application	-	-	
	Dentist UK Application	41	7.3	
	Dentist EEA & Overseas Application	156	12.8	
	Dentist Restoration	141	17.7	
	Dentist Assessment Application	4	25.0	
	Overseas Registration Examination	-	-	
	(Total)	591		
Sex				0.131
	Female	382	17.5	
	Male	989	14.3	
	(Total)	1371		
Ethnicity				0.055
	White	562	16.5	
	Asian	190	13.2	
	Other	85	7.1	
	(Total)	837		

Sanction Group by Registration Route, Sex, and Ethnicity

Although there may be some association between an individual's route to registration and whether or not a sanction is imposed in an FtP case, the category of this sanction is not associated with their route to registration, sex, or ethnicity.

Table 8: Proportion of FtP cases receiving category A (erasure), B (suspension), C (conditions), and D (reprimand) sanctions by registrant Registration Route, Sex, and Ethnicity

Factor	Level	N	Sanction Category (%)				p-value
			A	B	C	D	
Registration Route							0.401
	DCP UK Application	57	36.8	35.1	3.5	24.6	
	DCP EEA Assessment Application	-	-	-	-	-	
	DCP Restoration	7	71.4	-	-	28.6	
	DCP Assessment Application	-	-	-	-	-	
	Dentist UK Application	3	66.7	-	-	33.3	
	Dentist EEA & Overseas Application	20	45.0	20.0	10.0	25.0	
	Dentist Restoration	25	56.0	16.0	12.0	16.0	
	Dentist Assessment Application	1	-	100.0	-	-	
	Overseas Registration Examination	-	-	-	-	-	
	(Total)	113					
Sex							0.160
	Female	67	43.3	25.4	3.0	28.4	
	Male	141	41.8	20.6	12.8	24.8	
	(Total)	208					
Ethnicity							0.485
	White	93	39.8	19.4	15.1	25.8	
	Asian	25	52.0	8.0	12.0	28.0	
	Other	6	50.0	-	-	50.0	
	(Total)	124					

Sanction Severity by Registration Route, Sex, and Ethnicity

As with sanction category, registrant route to registration, sex, and ethnicity do not appear to show any association with the severity of the sanctions recorded for FtP cases.

Table 9: Sanction Severity (Serious, Less Serious) by registrant Registration Route, Sex, and Ethnicity

Factor	Level	N	Serious* (%)	Less Serious* (%)	p-value
Registration Route					0.999
	DCP UK Application	57	71.9	28.1	
	DCP EEA Assessment Application	-	-	-	
	DCP Restoration	7	71.4	28.6	
	DCP Assessment Application	-	-	-	
	Dentist UK Application	3	66.7	33.3	
	Dentist EEA & Overseas Application	20	65.0	35.0	
	Dentist Restoration	25	72.0	28.0	
	Dentist Assessment Application	1	100.0	-	
	Overseas Registration Examination	-	-	-	
	(Total)	113			
Sex					0.439
	Female	67	68.7	31.3	
	Male	141	62.4	37.6	
	(Total)	208			
Ethnicity					0.945
	White	93	59.1	40.9	
	Asian	25	60.0	40.0	
	Other	6	50.0	50.0	
	(Total)	124			

*'Serious' combines category A and B sanctions. 'Less Serious' combines category C and D sanctions.

Question 4: Is there a relationship between informant type and route to registration/sex/ethnicity or the imposition of certain types of sanction?

For all FtP cases, open or closed, (with Registrant Route, Sex, and Ethnicity data respectively):

Cross-tabulation of registrant characteristics (registration route, sex, and ethnicity) against informant types reveals statistically significant associations between all registrant characteristics and informant type. Across all characteristics and sub-groups, it appears that the vast majority of informants are patients or other service users.

Table 10: Proportion of FtP cases from different informant types by registrant Registration Route, Sex, and Ethnicity

Factor	Level	N	Self-Referral	Other Registrant	Patient or Service User	NHS	Non-NHS Employer	GDC	Other Regulatory Body	Anonymous	Other	p-value
Registration Route												<0.001
	DCP Assessment Application	22	4.5	22.7	54.5	-	-	13.6	-	-	4.5	
	DCP Restoration	91	13.2	15.4	38.5	4.4	3.3	7.7	3.3	11.0	3.3	
	DCP UK Application	881	13.8	16.2	31.4	4.0	4.7	11.8	3.7	7.9	6.4	
	Dentist Assessment Application	58	3.4	10.3	53.4	8.6	6.9	12.1	1.7	3.4	-	
	Dentist EEA & Overseas Application	1025	0.8	8.1	68.1	6.1	3.3	5.8	0.5	2.4	4.9	
	Dentist Restoration	493	0.6	8.9	63.3	7.5	1.0	6.5	1.6	4.1	6.5	
	Dentist UK Application	667	5.2	6.1	70.8	4.5	1.6	3.1	0.3	3.7	4.5	
	EEA DCP Assessment Application	2	-	-	-	-	-	50.0	-	50.0	-	
	Overseas Registration Examination	14	7.1	7.1	85.7	-	-	-	-	-	-	
	(Total)	3253										
Sex												<0.001
	Female	2708	5.6	10.1	59.6	4.8	3.1	6.2	1.3	4.1	5.2	
	Male	5680	2.4	9.0	64.3	5.7	0.9	6.2	1.3	4.2	5.9	
	(Total)	8388										
Ethnicity												<0.001
	White	3375	3.8	10.6	61.2	5.6	1.9	6.6	1.3	4.4	4.7	
	Asian	1240	3.2	6.4	69.3	4.0	1.4	5.2	0.9	4.4	5.4	
	Other	584	3.8	10.8	59.8	6.7	2.7	5.8	1.2	3.1	6.2	
	(Total)	5199										

For FtP cases with decision data (by Sanction Group – A/B/C/D):

As with the association between registrant characteristics and informant types, FtP cases with recorded sanctions of any category are all more likely to come from patients or service users. A larger relative proportion of informants are patients or service users for category C sanctions (42.7), followed by comparable Category D and B sanctions (32.8% and 32.4% respectively), with Category A sanctions having the lowest proportion raised by patient or service user informants (25.8%).

Table 11: Proportion of FtP cases from different informant types by sanction category.

Factor	Level	N	Self-Referral	Other Registrant	Patient or Service User	NHS	Non-NHS Employer	GDC	Other Regulatory Body	Anonymous	Other	p-value
					Informant Type (%)							
Sanction Category												<0.001
	A	93	1.1	11.8	25.8	24.7	5.4	8.6	6.5	6.5	9.7	
	B	247	8.9	10.5	32.4	12.6	3.6	7.3	5.7	4.5	14.6	
	C	309	2.3	6.8	42.7	14.6	2.3	2.9	1.3	4.5	22.7	
	D	61	6.6	4.9	32.8	18.0	4.9	6.6	6.6	4.9	14.8	
	(Total)	710										

For FtP cases with decision data (by Sanction Severity – A|B and C|D):

As with recorded sanctions and recorded sanction categories, sanction severity also shows a statistically significant association with informant type. The majority of all sanctions of any severity are from patient or service users, and this relative proportion is larger for less serious (41.1%) than serious (30.6%) sanctions.

Table 12: Proportion of FtP cases from different informant types by sanction severity.

Factor	Level	N	Self-Referral	Other Registrant	Patient or Service User	NHS	Non-NHS Employer	GDC	Other Regulatory Body	Anonymous	Other	p-value
					Informant Type (%)							
Sanction Severity												<0.001
	Serious*	340	6.8	10.9	30.6	15.9	4.1	7.6	5.9	5.0	13.2	
	Less Serious*	370	3.0	6.5	41.1	15.1	2.7	3.5	2.2	4.6	21.4	
	None	21927	3.5	8.7	64.8	5.7	1.7	6.1	1.3	3.0	5.3	
	(Total)	22637										

*'Serious' combines category A and B sanctions. 'Less Serious' combines category C and D sanctions.

Question 5: For FtP cases against dentists, and for the ten most frequently arising clinical particulars, is the occurrence of those clinical particulars in a case related to the registrant's age, sex, ethnicity, time on register, route to registration or specialist status?

The 'Consideration Particulars' falling within Consideration Subgroup 16: *Professional knowledge and skills - Failure to provide good quality care* are referred to as 'clinical particulars'. The twenty clinical particulars and their occurrence within the case data, are shown in Table 13. Note that in 50% of the 6,494 cases against dentists none of these clinical particulars were a Consideration while 17% of cases concerned more than one (and as many as nine) clinical particulars.

Table 13: Occurrence (count and percentage) of clinical particulars in FtP cases. (N=6,494 cases against dentists with considerations data attached)

	Clinical particular	N cases	% cases
1	Examination	764	11.8
2	Fillings	540	8.3
3	Crowns	447	6.9
4	Extractions	394	6.1
5	Root canal treatments	383	5.9
6	Not following current evidence and best practice	314	4.8
7	Implants	302	4.7
8	Orthodontics	269	4.1
9	Bridges	253	3.9
10	Caries	241	3.7
11	Dentures	174	2.7
12	Gum disease	174	2.7
13	Inappropriate prescribing	161	2.5
14	Periodontal treatment	156	2.4
15	Inadequate aftercare	151	2.3
16	Abscesses	122	1.9
17	Veneers	77	1.2
18	Bone loss	31	0.5
19	Tooth whitening	16	0.2
20	Botox and other cosmetic procedures	4	0.1

For each of the ten most frequent clinical particulars we constructed a logistic regression model to test whether the occurrence of that particular in a case was associated with the registrant's age, sex, ethnicity, time on register, route to registration or specialist status. Entering all six registrant characteristics into a single regression model for each clinical we found statistically significant associations for three of these characteristics in just two of the ten models Table 14). Registrants' age and sex were both associated with variation in the odds that *Fillings* were a clinical particular of a case, while the registrants' route to registration was associated with the odds that *Crowns* were a clinical particular.

Table 14: Summary of significant effects (P values) in logistic regression models for each Consideration Particular. All models are based on data from 1,254 cases. n/s indicates non-significant variables.

Consideration Particular	Age	Sex	Ethnicity	Time since registration	Registration route	Specialist status
Examination	n/s	n/s	n/s	n/s	n/s	n/s
Fillings	**0.003**	**0.033**	n/s	n/s	n/s	n/s
Crowns	n/s	n/s	n/s	n/s	**0.008**	n/s
Extractions	n/s	n/s	n/s	n/s	n/s	n/s
Root canal treatments	n/s	n/s	n/s	n/s	n/s	n/s
Not following current evidence and best practice	n/s	n/s	n/s	n/s	n/s	n/s
Implants	n/s	n/s	n/s	n/s	n/s	n/s
Orthodontics	n/s	n/s	n/s	n/s	n/s	n/s
Bridges	n/s	n/s	n/s	n/s	n/s	n/s
Caries	n/s	n/s	n/s	n/s	n/s	n/s

A limitation on the generalisability of the above results is the effect of missing data, particularly for registrant ethnicity and route to registration. The combined effect of this missingness results in just 1,254 (19.3%) of the 6,494 cases against dentists being available for analysis. The significant associations between age, sex and registration route and the occurrence of considerations relating to *Fillings* or *Crowns* (Table 14) were therefore triangulated by examining these associations individually for the maximum possible number of cases.

In Table 15 we see that the percentage of FtP cases in which *Fillings* were a clinical particular decreased with the age of the registrant from 16.5% for registrants aged 30 years or under to 5.9% for those aged over 60. This decrease reflects and substantiates the pattern of odds ratios found in the regression model.

Table 15: Descriptive statistics and regression modelling results: cases in which Fillings are a clinical particular by age of registrant.

Age band	N cases	Incidence of cases involving Fillings		Logistic regression model*	
		N cases	% cases	Odds ratio	P value
≤30	468	77	16.5	1.000	-
31-40	1,590	177	11.1	0.457	0.002
41-50	2,011	126	6.3	0.320	0.003
51-60	1,623	113	7.0	0.213	0.002
>60	802	47	5.9	0.180	0.063
All	6,494	540	8.3	-	-

* Result from the regression model are based on just 1,254 cases but are adjusted for the effect of the other registrant characteristics

The proportion of FtP cases concerning *Fillings* was 4.9 percentage points lower for male compared to female registrants (Table 16). This difference echoes the results from the regression model where, after adjusting for other registrant characteristics, the odds that *Fillings* were a clinical particular in cases involving male registrants were 35.8% lower than the odds in cases against female registrants.

Table 16: Descriptive statistics and regression modelling results: cases in which Fillings are a clinical particular by sex of registrant.

Sex	N cases	Incidence of cases involving Fillings		Logistic regression model*	
		N cases	% cases	Odds ratio	P value
Female	1,722	205	11.9	1.000	-
Male	4,772	335	7.0	0.642	0.033
All	6,494	540	8.3	-	-

* Result from the regression model are based on just 1,254 cases but are adjusted for the effect of the other registrant characteristics

The proportion of FtP cases in which *Crowns* were a clinical particular was lowest for those dentists registered via Dentist UK Application and highest for those entering via Dentist Restoration (Table 17). The difference between these two extreme categories supports the findings of the regression model where the odds of a case against those registered via Dentist Restoration involving *Crowns* was over 2.6 times the odds of this occurring in a case against UK Application registered dentists. The odds for the EEA registration route were not significantly higher than the odds in cases against dentists registered via UK Application.

Table 17: Descriptive statistics and regression modelling results: cases in which Fillings are a clinical particular by route to registration.

Route to registration	N cases	Incidence of cases involving Crowns		Logistic regression model*	
		N cases	% cases	Odds ratio	P value
Dentist UK Application	550	33	6.0	1.000	-
Dentist EEA	895	62	6.9	1.167	0.622
Dentist Restoration	468	49	10.5	2.647	0.006
Dentist Assessment	48	3	6.3	‡	-
Overseas Registration Examination	11	1	9.1	‡	-
All	1,913	144	7.5	-	-

* Result from the regression model are based on just 1,254 cases but are adjusted for the effect of the other registrant characteristics
‡ These categories were excluded from the regression model due to small numbers