Differential attainment in curricular components of the FRCA - an observational study.

Introduction

Four sittings of each exam component (except MCQs) from 2014-16 have been studied by linking the personal data for each candidate to individual candidate marks for each question. This combination of data generated approximately 20,000 results for each component. The exam questions were categorized into the curriculum components being tested, by two experienced examiners. The results were then analysed by candidate and question groups. The overall results reflect previous work in this area in that candidates who are white, with a UK primary medical qualification, have English as a first language and are in a training post score higher overall in the exams compared with other groups. Although only relatively small numbers, BME candidates did particularly poorly in all curricular areas and should perhaps be offered extra support. Male and female candidates scored higher in different categories of questions, with females generally doing better in communication skills and obstetrics, and males in cardiothoracic anaesthesia, equipment and science. Anatomy questions were answered less well by white UK graduates. Candidates who had qualified abroad or were working in non-training grades seemed to do less well in clinical topics in primary and some specialities in final, suggesting a lack of exposure to UK clinical practice in the required fields. These data showing variation in the performance of different candidate groups between questions should be made available to trainers and prospective exam candidates so that both these groups can focus their exam preparation in the areas in which some candidate groups perform less well.

Discussion/Analysis

Project remit
An exams committee sub-group meeting held in December 2015 recommended a project to investigate a potential cause of differential attainment in the exam as follows:
'*An observational study of which specific components on the FRCA questions gave rise to differential pass rates was discussed and considered worthwhile. This would involve using the same data as for option 1 above, and two examiners to scrutinise the questions and map them to the curricula, basic or clinical sciences etc.*'

Methods
MCQs were not analysed as there are too many questions on too many topics to make analysis meaningful. Four exams of each component were included: primary; structured oral examination (SOE) and objective structured clinical examination (OSCE) January 2015 to January 2016, final short answer question (SAQ) September 2014 to March 2016 and final SOE June 2014 to December 2015. For each candidate at each sitting the following data was provided by the Royal College of Anaesthetists exams database: ethnicity, sex, English as a first language, training post or not and place of primary medical qualification (PMQ). Each individual candidate's data was then linked to their own scores in the exam.

Analysis differed slightly for each exam component:

Primary SOE: SOE1 consists of six questions, three each on pharmacology and physiology topics. The questions were categorized according to their main subject heading into: pharmacology - anaesthetic drugs, pharmacology - non anaesthetic drugs, pharmacology - general principles, and physiology - core (cardiac and respiratory) and physiology - allied.

SOE2 has three questions related to a clinical case including a possible critical incident, and three questions related to physics topics. Unlike the final exam, the clinical questions were analysed as a block rather than subdivided into different types of cases, so the questions were categorized as clinical or critical incident. Physics questions were divided into those on physics principles, equipment - anaesthetic (including clinical measurement) and equipment - allied, relating to equipment not directly involved in administering an anaesthetic eg MRI scanners.

Candidate scores (0, 1 or 2) for each question from each examiner were analysed by calculating the percentage of candidates who passed (score=2), broken down by the categories described above and compared with the candidate characteristics.

Primary OSCE: Again the questions were classified into subjects: communication and history, clinical examination, anatomy, x ray analysis, technical skills, equipment (including monitoring and measurement), safety and hazards, simulators (SimMan) and resuscitation. In addition, to analyse any effect of interactive stations the simulator and *interactive* resuscitation stations were grouped together into an 'interactive' category. As a result, data from these stations is included twice.

An OSCE round will contain one or two test stations, which are not included in the candidates' final marks, but were included in our analysis. The pass mark for each OSCE station is variable within and between exams, depending on the question asked, so each candidate mark was subtracted from the pass mark for that question, for example, OSCE question pass mark of 14 and candidate score of 12 will result in a recorded score of -2. Mean values were then calculated and broken down by each question classification and candidate characteristic.

All questions within the primary are mapped to the curriculum, but these classifications were generally too broad to use as a categorisation method for this study.

Final SAQ: each question was categorized based on intermediate curriculum units. In addition, those questions which contained a significant component of applied clinical science were identified, irrespective of the curriculum unit being tested, and categorised into science or not-science. For the same reason of variable pass marks between questions these results were treated in the same way as the primary OSCE marks.

Final SOE: each question was categorized based on the intermediate curriculum units. SOE scores were analysed in the same way as for Primary SOEs.

For all exam components, to gain a clearer view of differences between the candidate characteristics, for each characteristic being studied, the best performing group was defined as an index group, and the other groups' results presented relative to the index group.

Results and commentary

Limitations of this data

1. Number of attempts at the exams by candidates - we did not take this factor into account and included all candidates at all sittings, meaning that poorer candidates will be over-represented in our sample as they will have sat the exam more times than the better candidates within our data. However we do not believe this will have significantly affected the results because the focus of this project is on the relative performance of the questions and not the candidates.

2. This is descriptive data only - we have made no attempt to identify statistically significant findings as the numbers of factors under consideration means that a much bigger dataset would be required. Despite this, we believe that the inclusion of approximately 20000 questions for each exam component suggests that the observed differences are still worthy of consideration by all involved in the FRCA, including candidates and trainers.

Common themes

For all exam components studied white candidates, those qualifying in the UK, those with English as a first language and those in a training post outperformed the other groups and were therefore the index groups. There will of course be associations and overlap between each of these categories. The performance of Arabic and black candidates is of particular concern. Although these are small numbers relative to the Asian ethnic minority group, there is still a consistently lower score in these groups in all exam components.

Recommendations

Recommendation 1 - Arabic and black ethnic minority candidates may need extra examination support by their trainers and should ensure they are aware of the curriculum and prepared for all its components.
Female and male candidates perform differently in various exam components, with females outperforming males overall in all except the final SOE. At Primary females score particularly well in communication and history stations while male candidates score higher on the equipment based questions. In the Final SAQ female candidates score higher in all modules except cardiothoracics, doing particularly better in obstetrics and paediatrics. For the Final SOE females outperform males in obstetric anaesthesia while males outperform females in the physiology sections.

Recommendation 2 - male and female candidates should be aware of these differences and focus their learning on the areas where this data suggests they may perform less well.
Candidates not in training posts perform less well than trainees in all components and most curriculum units. In primary this group score lower in the clinical questions, perhaps reflecting their lack of exposure to anaesthetic specialties represented in the questions (e.g. paediatrics or obstetrics). In the Final non-trainee scores were lower than trainees in most units, but particularly obstetrics, ICM and paediatrics, suggesting that non-trainees may have less clinical experience in these areas in their day-to-day work.

Recommendation 3 - candidates who are not in a training post should ensure they gain clinical experience and knowledge of all clinical areas before sitting the exams.
Primary SOEs. A total of 27780 individual scores were included and results are shown in Table 1.
All ethnic minority groups do less well than white candidates overall and in most question categories, but particularly in clinical and critical incident questions, suggesting less good knowledge of clinical situations, or the ability to discuss these in an oral exam format. This observation remains mostly true, but to a lesser extent, in UK graduates from an ethnic minority, an observation which is difficult to explain.

Recommendation 4 - candidates from an ethnic minority should ensure they are fully conversant with usual UK clinical practice before sitting the exam and be confident discussing this verbally.
Lower marks in the clinical section of the SOE2 were also noticeable in those who qualified from the rest of the world (ROW): 26% fewer gained a mark of 2. This may be due to differing practices in their country of training, differing clinical exposure, or how the answer is organised. Although there is also a difference in those whose first language is not English this is not as marked (15-17%). Where the primary medical qualification is in Europe there is a 10% lower rate of scoring a 2, and if from the ROW this is 14.5%. This is most marked in physics principles questions.

Recommendation 5 - Candidates who have not obtained their medical degree in the UK may need extra support from their trainers before sitting the exam.

Primary OSCE. A total of 21388 individual scores were included and results are shown in Table 2. Those question subjects that appear once during the OSCE round represent 5% of the questions for a round, those that may have more than one station (e.g. equipment which includes monitoring and measurement) represent 10-15%, and communication / history stations (which may have 3 questions per round) represent 17.5%. The last two areas are therefore over-represented in the OSCE compared with the curriculum, but this reflects the areas of the curriculum best tested by the OSCE format.

The overall average score is 0.23 above the pass mark. Those subjects with the poorest average scores are anatomy and technical skills while communication and clinical examination scores are the highest.

An exception to the general trends described so far is seen in anatomy based questions. In the Primary OSCE anatomy stations Asian and Arabic candidates, the non-UK PMQ, English not as a first language and non-training posts all score higher than the other groups. Those trained in the UK will score an average of 1 less mark. This difference is continued into the final (see below).

Recommendation 6 - UK graduates should focus more on anatomy when preparing for the exam.

Ethnic minority candidates with a PMQ in the UK score lower in all stations except anatomy compared to their white counterparts.

Although the numbers are small (306) those candidates whose PMQ was from Europe did markedly less well in the SimMan station (-3).This may be due to less access to simulation training and/or poorer understanding of UK protocols.

Recommendation 7 - trainers should ensure that non-UK PMQ candidates, particularly those trained in Europe, have adequate simulation practice before sitting the exam

Final SAQ. A total of 19164 individual scores were included and results are shown in Table 3. The average mark for all candidates on all questions is 0.97 below the pass mark, in keeping with the overall pass rate for the SAQ paper during this time. The spread of question topics in the clinical modules is consistent with the curriculum, as would be expected with specific mapping of questions to the module units. Within the applied science questions there is less consistency with physiology being over-represented. When classified into science versus non-science questions, the science questions seem to be answered slightly more easily than the clinical-based ones.

Recommendation 8 - question balance within the science SAQ could be better matched to all the components of the 'Advanced sciences to underpin clinical practice' curricular component.

White candidates scored higher overall than all the ethnic minority groups, with a similar differential score in all modules except anatomy where, as in the primary OSCE, both Asian and Arabic groups scored higher than the white group (see recommendation 6 above). European graduates showed a similar profile, gaining high marks in anatomy questions but below UK graduates in all other modules. A similar pattern was also seen in candidates with PMQ from ROW and not having English as their first language, presumably due to the association between these factors and ethnicity. Non-trainees performed less well than trainees in all units, with no major difference between modules.

Finally, UK trained EM candidates performed less well than UK white candidates to a similar extent in all modules except anatomy where they did better.

Final SOE. A total of 22120 individual scores were included and results are shown in Table 3. There is variation between the number of questions asked about different training units. Only one, albeit experienced, examiner allocates the questions based on their specific training units, and many SOE questions may contain small components from different units which will not be picked up by this study where questions were categorized by their single, most major, component. Despite this minor limitation to this data, the variation in representation in the SOE presumably represents the relative 'value' to training placed on these units by examiners writing and choosing questions. There are a large number of questions on 'general duties' i.e. questions judged to not have a focus on any particular speciality module, instead relating to the 12 subjects contained within general duties - the fact that 29% of questions are on these topics probably indicates reasonable matching to the training

curriculum. Within the other mandatory units there is wide variation between question frequency, with ICM, obstetrics, paediatrics and vascular being over-represented compared with their equivalent training modules.

Recommendation 9 - question balance within each candidate's SOE question set could be better matched to the curriculum units.
Asian candidates do less well compared with white candidates in all modules except plastics, with the largest differences seen in neuroanaesthesia, ICM and obstetrics from the core units. A PMQ from the rest of the world results in an even larger difference in performance compared with UK graduates, with neuroanaesthesia, ICM and obstetrics again scoring lower, also presumably due to the association between ethnicity and PMQ area. Candidates with PMQ from ROW also consistently scored lower in the four science SOEs when compared to UK or European graduates, possibly reflecting different amounts and styles of basic science teaching in medical degrees elsewhere in the world. Why there are differences in performance in different modules is hard to explain - the overall pass rate for the questions seems to be similar (70 +/- 4% for SOE1 and 60 +/- 4% for SOE2) and the candidates groups should have had similar clinical exposure in their training.

Recommendation 10 - candidates from an Asian background and/or whose PMQ is from outside of Europe should be advised to focus more on modules where this data suggests they underperform, including neuroanaesthesia, ICM, obstetrics and the science questions.
When looking at UK graduates divided into white or EM, the UK-EM group had the best overall performance so forms the index group. There is no consistent difference between these two groups, with less than 1% difference between their pass rates.

Conclusion

Overall summary for Primary

1. Anatomy questions are answered better by Asian and Arabic candidates in both primary OSCE and [Final SAQ exams], including a difference in those candidates whose PMQ is not in the UK. This may reflect more thorough undergraduate anatomy teaching in non-UK medical schools.

2. Female candidates tend to score higher than males in communication skills and clinical scenarios. Although this difference is known to exist in assessments at a younger age e.g. at school, it is surprising that the difference is still apparent at this stage of a professional career.

3. All ethnic groups, including those whose PMQ is in the UK, perform less well than white candidates. This may relate to ethnic minority candidates from non-training posts being over-represented in the group sitting the exam, and therefore having insufficient breadth of clinical exposure before sitting the exam. The Arabic and black subgroups perform particularly poorly.

4. Some groups, including those with a PMQ from Europe, received low scores in the OSCE stations involving simulation, suggesting a lack of experience of this form of assessment.

Overall summary for Final

1. Differences between group performances in different modules are less in the SAQ compared with the SOE, except for anatomy questions, which are the easiest questions overall but still answered better by ethnic minority candidates, including within UK graduates.

2. In the SAQ there seems to be no difference in overall success in science versus non-science questions in any of the groups.

3. In SOEs the question balance between training units does not fully reflect the curriculum, with an over-representation of ICM and no ophthalmology questions used.

4.	There is more variation between groups in how well they perform, on different modules in the SOEs. Such as, Asian candidates do less well in neuroanaesthesia, ICM and obstetrics modules. Male candidates do less well in obstetrics (and paediatrics in the SAQ) and candidates who graduated outside of the UK and Europe do less well in clinical science SOEs. Although, this last observation is not seen in the SAQ, suggesting it is the verbally communicating of the science concepts that causes difficulty.

This descriptive study has shown variation in the performance of different candidate groups between questions addressing different training modules. This information should be made available to trainers and prospective exam candidates so that they can focus their exam preparation, teaching, and learning in the areas in which some candidate groups may need extra help.

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Table 1 - Results for Primary SOE. Data shown are the percentage for each group attaining a pass mark, presented relative to the index group as indicated.

		All Qs	Clinical	Critical incidents	Physics principles	Equip anaes	Equip allied	Pharm anaes	Pharm non-anaes	Pharm general	Physiol core	Physiol allied
All	n	27780	4676	2266	2547	3003	1392	2316	2316	2316	3483	3465
	%	62.92	72.11	67.17	55.48	62.54	57.26	67.83	54.58	62.05	61.36	59.37
Sex (vs F)	13284											
M	14448	-1.41	-6.76	-9.14	-2.27	-0.41	2.42	-0.62	1.26	0.79	-0.59	4.69
Ethnicity (vs Wh)	16860											
Asian	5928	-6.18	-8.99	-10.95	-6.24	-7.43	-7.20	-1.71	-3.74	-8.74	-6.10	-0.70
Arabic	600	-26.50	-33.19	-39.32	-18.13	-28.76	-23.14	-30.13	-29.18	-19.22	-28.65	-13.08
Black	240	-12.17	-5.19	-16.32	-21.35	-18.70	0.75	-15.13	-27.18	-5.22	-10.91	-4.64
Other/Mixed	1416	-2.93	0.65	-7.77	4.88	-1.90	2.59	-7.42	-6.34	-3.36	-8.16	-2.38
Unknown	2736	-4.43	-2.68	-2.41	-5.88	2.92	-0.35	-7.41	-5.87	-5.13	-10.40	-4.34
PMQ (vs UK)	22908											
Europe	360	-10.36	-9.74	-10.24	7.89	-4.20	-13.49	-16.30	-9.93	-4.03	-21.47	-16.27
Rest of World	1848	-14.49	-26.04	-20.24	-16.42	-15.93	-13.77	-11.19	-8.54	-10.14	-9.65	-6.49
Unknown	2664	-11.07	-6.38	-14.63	-15.87	-10.05	-8.67	-8.37	-13.35	-11.33	-16.65	-8.73
Eng 1st Lang (vs yes)	21732											
No	4128	-12.17	-15.36	-17.93	-13.15	-11.01	-7.22	-10.87	-12.95	-14.47	-11.22	-6.12
Unknown	1608	-4.19	-8.44	-3.09	-8.42	3.23	0.47	-4.67	-5.35	2.98	-13.14	1.07
Current post (vs trainee)	23124											
Non-trainee	2832	-13.81	-19.70	-17.01	-15.57	-13.18	-13.49	-14.04	-12.78	-12.40	-8.14	-9.69
Unknown	696	-10.45	-15.61	-18.83	-6.27	-0.86	-0.38	-6.18	-13.74	-12.80	-10.55	-12.47
UK grad & EM (vs UK	15588											

Wh)												
UK EM	5112	-3.59	-3.74	-7.92	-2.11	-4.32	-8.12	-1.84	-3.77	-4.11	-4.71	1.53
Neither	7080	-9.68	-9.14	-12.42	-9.74	-7.36	-7.31	-9.43	-10.54	-10.36	-13.82	-6.31

Table 2 . Results for Primary OSCE. Data shown are the mean difference in mark between the group being considered and the pass mark for each individual station, presented relative to the index group as indicated.

		All Qs	Commu-nication	Anatomy	X-ray	Tech Skills	Equipment	Safety & hazards	SimMan	Resusc	Clin Exam	Interactive stations
All	n	23767	4148	2380	2347	2380	3570	1190	1190	2992	1190	2380
	Score	0.23	0.54	-0.06	0.12	-0.06	0.14	0.29	0.33	0.36	0.84	0.35
Sex (vs F)	10065											
M	11268	-0.03	-0.39	0.01	0.09	-0.07	0.40	0.03	-0.18	-0.10	0.01	-0.20
Ethnicity (vs Wh)	12960											
Asian	4817	-0.48	-0.56	0.38	-1.09	-0.24	-0.46	-0.48	-0.40	-1.00	-0.07	-1.07
Arabic	539	-1.32	-2.06	0.12	-0.97	-1.47	-1.22	-0.52	-1.74	-1.78	-1.62	-1.86
Black	179	-0.94	-0.98	-0.06	-1.26	-1.08	-1.30	-0.75	0.06	-1.15	-1.26	-0.26
Other/Mixed	1096	-0.64	-0.29	-0.47	-0.27	-0.19	-0.31	-0.73	-0.16	0.05	0.13	0.03
Unknown	1796	-0.22	-0.43	0.07	-0.21	-0.18	-0.27	-0.14	-0.07	-0.35	0.10	-0.21
PMQ (vs UK)	17668											
Europe	306	-0.72	-0.95	0.25	-1.08	-0.41	-0.54	0.48	-3.01	-0.84	-0.90	-1.89
Rest of World	1472	-0.83	-1.64	1.00	-1.25	-0.49	-0.73	-0.72	-0.73	-1.43	-0.45	-1.43
Unknown	1941	-0.84	-1.29	-0.07	-0.85	-0.25	-0.89	-1.04	-0.89	-1.22	-0.54	-1.06
Eng 1st Lang (vs yes)	16824											
No	3306	-0.77	-1.23	0.28	-0.93	-0.34	-0.72	-0.59	-1.09	-1.12	-0.90	-1.27
Unknown	933	-0.20	-0.47	-0.23	-0.09	0.11	-0.05	-0.47	-0.49	-0.28	-0.36	-0.55

Current post (vs trainee)	17453											
Non-trainee	1980	-0.61	-0.92	0.15	-0.81	-0.56	-0.40	-0.54	-0.58	-0.87	-0.77	-0.86
Unknown	1004	-1.03	-1.86	-0.15	-1.64	-0.30	-1.01	-0.46	-1.05	-1.56	0.47	-1.88
UK grad & EM (vs UK Wh)	12007											
UK EM	4171	-0.30	-0.21	0.06	-0.70	-0.26	-0.34	-0.44	-0.18	-0.49	-0.02	-0.49
Neither	5209	-0.66	-0.85	0.14	-0.80	-0.31	-0.65	-0.60	-0.77	-1.12	-0.33	-1.05

Table 3. Results for Final SAQ. Data shown are the mean difference in mark between the group being considered and the pass mark for each individual question, presented relative to the index group as indicated.

		All Qs	Gen	Neuro	CTh	ICM	Obs	Paed	Pain	Ophth	Plast	Vasc	Sci Anat	Sci Phys	Sci Phar	Sci Clin M	Sci	Not Sci
All	n	19164	5149	1597	1597	2915	1597	1250	1597	no data	279	514	279	1375	457	558	2675	16489
	Score	-0.97	-0.48	-2.34	-1.05	-0.83	-1.30	-1.11	-1.13	no data	-2.33	-0.50	0.52	-0.74	-0.57	-1.77	-0.80	-1.00
Sex (vs F)	8604																	
M	10560	-0.22	-0.28	-0.37	0.29	-0.14	-0.66	-0.81	0.05	no data	-0.54	-0.12	0.30	-0.16	0.21	0.00	-0.03	-0.25
Ethnicity (vs Wh)	9936																	
Asian	5340	-0.78	-0.73	-0.73	-0.95	-0.59	-0.58	-1.25	-0.83	no data	-1.03	-1.05	0.46	-0.65	-1.12	-1.22	-0.76	-0.78
Arabic	396	-0.80	-0.57	0.06	-1.08	-0.57	-1.12	-2.06	-1.83	no data	-2.38	-0.52	1.48	-0.65	0.14	-0.80	-0.40	-0.87
Black	588	-1.64	-2.02	-1.30	-0.83	-1.44	-1.54	-1.90	-1.47	no data	-3.59	-2.18	-1.98	-1.39	-2.79	-0.60	-1.53	-1.65
Other/Mixed	888	-0.39	-0.53	-0.98	0.05	-0.28	0.31	-0.85	-0.73	no data	-0.80	0.54	0.15	-0.45	-0.70	0.24	-0.29	-0.41
Unknown	2016	-0.15	-0.20	0.35	-0.34	-0.09	0.10	-0.01	-0.66	no	-0.10	-0.33	0.53	-0.13	-0.43	-0.84	-0.21	-0.14

									data								
PMQ (vs UK)	14796																
Europe	360	-1.42	-1.48	-0.64	-0.36	-1.26	-1.93	-1.36	-2.21	no data	-5.64	-2.09	0.96	-1.53	-2.74	-1.81	-1.58	-1.39
Rest of World	1860	-1.41	-1.33	-1.73	-1.37	-0.96	-1.25	-2.52	-1.28	no data	-2.14	-1.58	-0.02	-1.39	-1.94	-1.97	-1.47	-1.40
Unknown	2148	-0.85	-0.96	-0.58	-0.58	-0.56	-0.96	-1.41	-1.01	no data	-1.55	-0.60	-0.14	-0.52	-1.05	-0.93	-0.71	-0.79
Eng 1st Lang (vs yes)	15108																
No	3420	-0.97	-0.97	-1.10	-0.91	-0.72	-0.73	-1.57	-1.01	no data	-1.21	-0.85	1.00	-1.09	-1.44	-1.33	-0.99	-0.97
Unknown	636	-0.71	-1.06	-1.06	-0.10	-0.45	-0.02	-1.24	-0.50	no data	-0.64	-1.03	0.07	-0.69	-0.24	-0.89	-0.63	-0.02
Current post (vs trainee)	15852																
Non-trainee	2400	-1.09	-1.01	-1.06	-1.10	-0.75	-1.21	-1.67	-1.06	no data	-1.92	-1.29	-0.73	-0.81	-1.47	-1.52	-1.11	-1.09
Unknown	912	0.69	1.38	2.37	-0.09	0.87	1.18	-0.08	-0.01	no data	no data	-0.25	no data	0.31	no data	no data	0.27	0.77
UK grad & EM (vs UK Wh)	9336																
UK EM	3912	-0.48	-0.48	-0.44	-0.60	-0.55	-0.10	-0.64	-0.62	no data	-0.42	-0.54	0.57	-0.49	-0.76	-0.42	-0.42	-0.49
Neither	5916	-0.84	-0.89	-0.55	-0.78	-0.59	-0.76	-1.30	-1.09	no data	-1.58	-0.92	0.38	-0.71	-1.29	-1.35	-0.84	-0.85

Table 4. Results for Final SOE. Data shown are the percentage for each group attaining a pass mark (2) presented relative to the index group as indicated.

| | | | | | | | | | | Optional units | | | Clinical science | | | |
		All Qs	Gen	Neuro	CTh	ICM	Obs	Paed	Pain	Ophth	Plast	Vasc	Sci Anat	Sci Phys	Sci Phar	Sci Clin M
All	n	22120	6432	394	896	1346	1310	1484	168	242	86	914	2276	2046	2148	2378
	%pass	67.6	71.7	66.8	68.1	72.3	72.7	72.9	81.0	63.6	68.6	73.9	63.8	59.7	58.3	63.2
Sex (vs M)	11840															
F	10280	-0.4	0.2	-0.8	1.4	2.9	7.0	0.1	11.9	-14.2	2.6	-0.3	0.8	-6.6	-3.6	-1.4
Ethnicity (vs Wh)	14160															
Asian	4940	-10.8	-9.7	-23.4	-8.8	-17.1	-15.6	-10.4	-13.9	-19.1	22.4	-15.9	-8.7	-13.2	-4.0	-11.3
Arabic	440	-19.6	-21.5	-22.1	-20.2	-16.7	-40.4	-0.8	-34.5	30.9	no data	-12.1	-23.2	-16.2	-25.8	-16.8
Black	200	-11.4	-8.3	-5.5	-32.7	-33.7	-15.4	9.9	no data	-19.1	-39.0	-12.1	3.6	-25.9	5.1	-16.8
Other/Mixed	1520	-3.6	-6.0	2.9	14.6	-2.4	-13.6	-8.4	-1.1	-19.1	19.3	-11.5	0.9	-2.4	3.7	-4.9
Unknown	860	-5.7	-2.7	-2.1	-5.5	-7.8	-7.9	-0.8	3.0	-69.1	-14.0	-9.7	-7.9	-2.9	-11.1	-7.5
PMQ (vs UK)	18360															
Europe	480	-5.8	-4.3	-21.4	-24.4	-23.4	-8.1	1.1	15.3	-16.7	no data	-19.4	-7.4	11.2	2.1	-6.5
ROW	2500	-19.1	-19.2	-28.2	-11.2	-25.1	-29.8	-19.8	-49.0	-16.7	20.0	-21.8	-13.4	-17.6	-14.5	-20.9
Unknown	780	-10.1	-10.5	-4.7	-6.9	-14.3	-2.1	-20.8	-34.7	-16.7	-15.7	-7.8	-8.6	-3.2	-13.1	-12.6
Eng 1st Lang (vs yes)	18180															
No	3560	-14.7	-14.6	-21.8	-18.6	-18.0	-19.7	-12.5	-10.6	-3.8	27.8	-13.2	-14.6	-8.2	-12.4	-19.1
Unknown	380	-8.2	3.6	28.2	-2.1	-21.4	-13.0	-11.8	-83.3	no data	36.1	-4.6	-21.5	-16.9	-21.8	-1.3

Current post (vs trainee)	20380															
Non-trainee	1659	-13.7	-13.1	1.8	-10.8	-19.4	-17.3	-24.4	-14.8	-15.4	-2.1	-12.8	-8.9	-7.0	-11.1	-21.4
Unknown	80	-21.2	-29.0	no data	-6.4	-11.4	-23.9	-7.8	no data	no data	no data	-24.9	-52.1	-10.2	-9.2	-24.9
UK grad & EM (vs UK-EM)	13460															
UK White	3860	-0.7	3.8	15.0	1.6	8.1	9.9	2.1	-6.0	7.6	-15.3	15.2	2.8	8.0	-3.9	3.8
Neither	3200	7.8	-10.4	-6.3	-10.4	-13.9	-10.6	-12.4	-23.7	-15.9	-2.8	-1.2	-9.0	-3.6	-15.7	-13.2