MRCGP Statistics 2015-2016

Annual Report
(August 2015 – July 2016) on the results of the AKT and CSA Assessments

Introduction

This Report relates to the formal MRCGP assessments conducted in the academical year 2015-16. It presents the statistics that summarise the outcomes of all the diets of the MRCGP examinations during that period – the Applied Knowledge Test (AKT) and the Clinical Skills Assessment (CSA) – three diets of the AKT and seven of the CSA.

The Report first presents an updated summary of both of these assessments and their standard-setting procedures, to orient new readers. Full background information on the MRCGP, the AKT and the CSA (and also the largely formative Workplace-Based Assessment component) may be found on the College's website.

There then follows a set of tables, first for the AKT and then for the CSA. These provide information on the candidature and the attempts at the test, for each of them:

- Candidate Demographics: Place of Primary Medical Qualification, Training Deanery, UK Medical School
- Main Results: Overall and by Exam Diet, Year of Training and Attempt; Candidates with Disabilities (candidates on all attempts)
- Results by Individual Demographics incl. UK Medical School and Country of Primary Medical Qualification (candidates on first attempt)
- Overview of Results by LETB/Training Deanery – more details are provided confidentially to these bodies

And in addition:

- AKT mean sub-component scores, by candidate year of training; correlations between these
- CSA feedback statements for all candidates: aggregate summaries by place of PMQ

Further data are then provided on AKT/CSA correlations and test quality. Some additional charts and tables providing historical pass rates for both components by main candidate groups conclude the report.

The report is descriptive and non-discursive. Data are presented without psychometric comment other than that which follows and at the end of the report, reviewing test accuracy and reliability. Candidates self-report their demographic variables. The 'attempt' is from the College's records.

The content of the Report has been developed following comments from members of the College's Assessment and Curriculum Development Committee, including the Deanery/LETB representatives.

Please Note:

a) Confounding of variables: as in previous years, there are many significant differences between sub-groups on their performance on both the tests reported, for example by sex and country of primary medical training. But variables may well be confounded with others, to potential confusion of the unwary.

b) As increasing use is made by both overseas and UK candidates of **medical schools in countries other than those of domicile**, 'country of primary medical qualification' should not be equated with 'country of origin/secondary education'. This applies particularly to medical qualifications from certain Caribbean and central- and eastern-European countries. Data from the GMC's PLAB office show that, after Pakistani and Indian nationals, British nationals are the third commonest group (by nationality) to sit the PLAB assessments.

Acknowledgements:

I thank the two Clinical Assessment Leads (Carol Blow, AKT & Nicki Williams CSA) for their support in preparing this report. I am also grateful to the Chief Examiner, Pauline Foreman, for her suggestions and advice.

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1: Summary of the Assessments and their Standard-Setting Procedures

The MRCGP and its Function

The MRCGP comprises three sets of assessment procedures whose combined summative function is to assure the Deaneries/LETBs, the College and the GMC of the competence of exiting trainee General Practitioners (GPs) across a broad and carefully-defined three-year (occasionally, four) full-time training curriculum. Satisfactory completion of the three assessment components of the MRCGP renders a trainee (GP Specialist Registrar) eligible to apply both for a Certificate of Completion of Training (CCT) from the GMC (and thus to proceed with her or his career) and for Membership of the Royal College (which will *inter alia* support the doctor's continuing professional development and probable re-validation).

The MRCGP's three assessment components are the following, each of which must be separately passed:

a. **Applied Knowledge Test** (*multi-choice computer-presented 'paper', available in test centres throughout the UK*)
b. **Clinical Skills Assessment** (*an integrated test of clinical and consulting skills, the RCGP assessment centre, Euston*)
c. **Workplace-based Assessments** *delivered throughout the three-year training programme by Clinical Supervisors, Educational Supervisors and others*

The curriculum, the training and the assessments are based on medical practice in the UK National Health Service. Entry to the assessments is only available to doctors undergoing GP training within the UK state health care system (though GP 'returners' may take the AKT). Accordingly, no candidates based in other countries take these assessments, as happens in certain other Royal Colleges' examinations. This has implications for the level of the assessments' quality statistics (reliability and accuracy). The College has other arrangements to support GPs practising in other countries and who seek affiliation or Membership through the quite separate 'MRCGP [International]' assessment route, see the College website.

Note that the workplace-based assessments, being essentially formative, with candidate performance and development on them being reviewed towards a determination of progression annually by the Deaneries and not the College, are not covered by this report. Please also note that the report, for convenience of comprehension, reports on the 'Stages' of training as 'Years': for most trainees, the two are operationally synonymous, but for part-time trainees or those provided with additional training, of course, the 'Stages' will be longer.

The Applied Knowledge Test

The multi-choice **Applied Knowledge Test** is a 3-hr 10-minute 200-item computer-delivered and marked assessment which is available to trainees in the ST2, ST3 and additional 4th years. Offered three times a year, the AKT is delivered by computer in professional testing centres around the UK run by Pearson VUE.

The test's 200 items are in four formats: single best answer (including images and graphics), extended matching questions, completion of tables/algorithms, and a small number of free text answers. A test specification is used to ensure adequate sampling across the curriculum. 80% of the items are on clinical medicine, and research/evidence-based practice and legal/ethical/administration issues are each represented by 10% of the questions. Irrespective of the question format, candidates are awarded one mark for each item answered correctly. Marks are deducted neither for incorrect answers nor for failure to answer.

The standard for the AKT is set using a modification of the Angoff procedure, where a group of 'judges' periodically estimates the performance of a notional 'just good enough to pass' candidate on each test item. The standard takes account of the 'guessing factor' always present in multi-choice tests. In order to ensure that standards are set at appropriate and realistic levels, a patient representative, newly-qualified GPs, and representatives of bodies with a stake in the outcome of the examination (including the training community) are invited to act either as judges or observers, as appropriate, in the standard-setting process. This standard is maintained between 'Angoffs' by the use of test equating, using sets of items with known performance characteristics.

A 'just passing score' is accordingly determined for the test as a whole, and a statistical review may sometimes cause the removal of one or two poorly-performing test items on any diet. The measurement error of the resultant test is then calculated, and a passing standard ('pass-mark') set, taking account of this measurement error, as is usual in high stakes testing. The accuracy of the AKT is regularly estimated by calculating Cronbach's *alpha* (reliability), together with the measurement error. Candidates are then provided with their results, and their scores on the test as a whole and on its three sub-sections.

It should be noted that, as the pass-mark varies slightly between diets because of small changes in the overall difficulty of the paper, raw or percentage scores need to be adjusted to a common pass-mark (here, zero) to permit comparability. This adjusted mark is called the Scaled Mark.

The Clinical Skills Assessment

The **Clinical Skills Assessment** is an OSCE-style assessment using simulated patients or role players that may not be taken before the normal final year of training (Year 3 = ST3, or the fourth year of an extended training programme). The CSA comprises 13 cases or 'stations' and is delivered in a purpose-built assessment centre in the College's headquarters building in Euston. Up to (and normally) three circuits run simultaneously.

A case is depicted by a role player, and candidate performance assessed by an examiner who accompanies the role player for the day. Each case lasts 10 minutes (plus two minutes marking/changeover time). Candidates have their own 'consulting room', and the role players move around the circuits' consulting rooms like patients, accompanied by their examiner.

Cases, written by dedicated writers who are practising GPs, present typical clinical scenarios that a UK GP will encounter. Cases are written to represent the diversity of the whole UK population. Each case is mapped on to the curriculum with intended learning outcomes, and a blueprint is used to guide case selection—a complex procedure as the cases necessarily change each day for reasons of security and fairness, yet each day's 'palette' must meet the blueprint's specifications and be equivalently challenging.

The standard-setting method used is the borderline group method, as recommended to the College by the Regulator (the General Medical Council). Each case is graded on three domains: Data Gathering, Technical and Assessment Skills; Clinical Management Skills; and Interpersonal Skills. Each domain is graded as: Clear Fail – Fail – Pass – Clear Pass. For standard-setting purposes only, the examiners also provide a grade to indicate the certainty of their judgement on that case – in particular if they felt that overall the candidate's performance was borderline.

The domain grades awarded on a case are given a numerical equivalent (zero to three, respectively) and combined to provide a case score: these are summated over the 13 cases to give a final score (which will be between zero and 117). The "cut score" – the half-way point between pass and fail – is established by the normal borderline group method. The final pass score is an adjustment of that score to take account of measurement error, as in the AKT, with the level being confirmed by an adjudicating group which includes recently-qualified GPs, lay representatives, and key stakeholders from the training community.

The overall standard of the assessment is set by ensuring that both that the cases are at an appropriate level of difficulty and challenge and that the examiners are adjudging passing performance on any case at the same, agreed level – appropriate for independent and safe practice as a GP in the NHS. A variety of critical support mechanisms are in place: calibration exercises at the beginning of each day of the CSA; initial and on-going quality assurance and training of examiners; and an annual two-day examiners training conference to calibrate the whole panel regularly and maintain process validity.

The reliability of the CSA is estimated by calculating Cronbach's alpha using the numerical scores and accuracy calculated by the Standard Error of Measurement (SEm). Because of daily case and examiner differences, these statistics require to be estimated separately each day, thus on a maximum of 78 candidates. And because of varying candidate numbers and daily variations in the range of candidate ability, the statistic varies, too.

Throughout this report, CSA outcomes used include the result (pass/fail) and scores adjusted to a common pass mark (zero), again referred to as the scaled mark.

2: General Notes on the Tables and Statistics

General Notes: Conventions in the Charts and Tables

Tables are accompanied where possible by charts, to assist those who prefer visual summaries of data.

With data protection issues in mind, tables containing personal data have generally been adjusted so as to report results only on 5+ individuals. Where such considerations apply, "Withheld: DP" is entered in the table and charts are greyed-out. This also explains the occasional missing entry in error bar charts: the bar would relate to N < 5.

The colour convention adopted for the charts is as follows:
BARS etc representing **passing** candidates: **BLUE**
BARS etc representing **failing** candidates: **RED**
Charts which do not distinguish between passing and failing candidates: **GREY**
Charts unrelated to candidate performance: GREEN

A **DOTTED RED LINE** on a histogram denotes the passing standard
A **DOTTED GREEN LINE** on a histogram denotes the mean score for the group whose performance is represented

Certain histograms show contrasting distributions of candidates where numbers in a single group are small. To permit visibility of these small groups, the Y-axes of the histograms have been presented in a log, as opposed to a linear, scale. The relevant charts have a small label to alert the reader, as shown here.

NB Log Scale !

Certain tables contain data customarily also supplied to the GMC, and these are separated out into UK, EEA (plus Switzerland: i.e. those countries whose nationals presently have the right to work in the UK), and 'rest of the world' graduates (RoW). Elsewhere, the two last groups (EEA and RoW) are conflated into a single group – International Medical Graduates or 'IMGs'; this is due to a similarity in performance between the EEA and RoW groups, small numbers in the former, and increasing practical overlap of the two groups with British and non–EEA students taking EEA qualifications.

Note regarding the Interpretation of the AKT statistics

Some candidates appear twice (371) or three times (28) within this annual database on the AKT, because of retakes. Except in the Summary of Demographic Information, the statistics "for all candidates" aggregate all 3489 candidates' 3888 attempts in this period. However, where the tables present comparisons between candidates on the basis of demographic variables (gender, ethnicity, the origin of candidates' primary medical qualifications, training deanery), they mostly do so on the basis of 'first attempts' only: otherwise re-sitters will bias the results. The groups upon which each table is based are made clear in its heading. Readers may notice that figures in this report do not always concur precisely with those given in reports of AKT examinations on the College website. The latter normally show totals and pass rates for *all* AKT candidates, including some 'GP returners'. The figures in this report refer only to candidates 'in training' and thus eligible for the MRCGP.

Note regarding the Interpretation of the CSA statistics

Two databases were constructed for the annual examination period: one is candidate-based, including all information about a candidate-attempt at the examination, and is designed to provide generic reporting functionality towards requirements such as this report; the other is candidate-consultation based, and intended to provide QA and developmental information regarding the cases and the examiners: it has been used here to provide the information on 'feedback statements' in the final table of the report and summaries of overall case performance. Some candidates appear twice (511) or three times (38) within this database on the CSA, because of retakes. Except in the demographic Information, the statistics "for all candidates" aggregate all 3281 candidates' 3830 attempts in this period.

Data Inconsistencies: Caution

Minor data inconsistencies result from a variety of causes, inevitably in an undertaking of this complexity that combines 'examination' data with background information from a number of databases. For example:

- Most of the candidates' personal background data is self-reported on registration for assessments. It is thus subject to entry error and omissions
- For the same reason, data are occasionally missing: most notably, 129 AKT candidate-attempts have no ethnicity data and 7 AKT candidate-attempts have no data on candidate sex; and 87 CSA candidate-attempts have no record for candidate ethnicity
- Candidates' circumstances change – for example, they may move from one training region to another, within the year, or between part-time and full-time training

However, the College would as always appreciate learning of any serious apparent errors or omissions in the data reported (for which the compiler apologises in advance). Please email him at rew5@cam.ac.uk

3: AKT Statistics

A: Summary of Candidate Demographics

3489 candidates made a total of 3888 attempts at the AKT during 2015-16. The tables below show the origin of the 3489 candidates, by UK medical school or non-UK country of primary medical qualification—and the percentage from each out of the total of that part of the candidature.

Overleaf, the background demographic characteristics of the 3489 are shown, by training LETB/Deanery. Subsequent tables report on attempts.

1. Source of Candidates' Primary Medical Qualification

All Graduates: UK, EEA or Rest of the World		
Group	N	%
EEA Graduates	137	3.9
Graduates from Rest of World	553	15.8
UK Graduates	2799	80.2
Total	3489	100.0

EEA Graduates		
Country of PMQ	N	%
Czech Republic	40	29.2
Germany	6	4.4
Hungary	7	5.1
Ireland	17	12.4
Poland	24	17.5
Romania	17	12.4
Other EEA Countries (< 5 each)	26	19.0
Total	137	100.0

Graduates from the Rest of the World		
Country of PMQ	N	%
Bangladesh	19	3.4
Egypt	16	2.9
India	87	15.7
Iran	6	1.1
Iraq	23	4.2
Nepal	16	2.9
Nigeria	122	22.1
Pakistan	149	26.9
Philippines	7	1.3
Russia	9	1.6
South Africa	6	1.1
Sri Lanka	8	1.4
Sudan	16	2.9
Ukraine	13	2.4
West Indies	5	0.9
Other Countries (< 5 each)	51	9.5
Total	553	100

Graduates of UK Medical Schools		
Medical School	N	%
Aberdeen	82	2.9
Belfast	72	2.6
Birmingham	188	6.7
Brighton and Sussex	42	1.5
Bristol	98	3.5
Cambridge	35	1.3
Cardiff / Wales (incl Swansea)	116	4.1
Dundee	49	1.8
Edinburgh	71	2.5
Glasgow	80	2.9
Hull York	73	2.6
Keele	25	0.9
Leeds	98	3.5
Leicester	97	3.5
Liverpool	136	4.9
London - Barts & the London	151	5.4
London - Imperial College	114	4.1
London - King's College	165	5.9
London - St George's	120	4.3
London - University College	106	3.8
Manchester	197	7.0
Newcastle	117	4.2
Norwich (UEA)	58	2.1
Nottingham	106	3.8
Oxford	26	0.9
Peninsula	65	2.3
Sheffield	121	4.3
Southampton	107	3.8
Warwick	84	3.0
Total	2799	100.0

2. AKT Candidates' Place of PMQ, by Training LETB / Deanery

Deanery / LETB	Source of PMQ			Total No. of Candidates
	EEA	RoW	UK	
Armed Forces (Defence)	Withheld:DP		22	22
			100.0%	100.0%
East Midlands	10	53	147	210
	4.8%	25.2%	70.0%	100.0%
East of England	26	59	228	313
	8.3%	18.8%	72.8%	100.0%
East Scotland	Withheld:DP		23	28
			82.1%	100.0%
Kent, Surrey, Sussex	17	32	222	271
	6.3%	11.8%	81.9%	100.0%
London	Withheld:DP		416	429
			97.0%	100.0%
Mersey	Withheld:DP		32	38
			84.2%	100.0%
North Scotland	Withheld:DP		39	47
			83.0%	100.0%
North Western	15	88	272	375
	4.0%	23.5%	72.5%	100.0%
Northern	9	52	89	150
	6.0%	34.7%	59.3%	100.0%
Northern Ireland	Withheld:DP		77	80
			96.3%	100.0%
Oxford	Withheld:DP		91	105
			86.7%	100.0%
Severn	Withheld:DP		163	167
			97.6%	100.0%
South East Scotland	Withheld:DP		66	67
			98.5%	100.0%
South West Peninsula	6	7	67	80
	7.5%	8.8%	83.8%	100.0%
Wales	5	12	109	126
	4.0%	9.5%	86.5%	100.0%
Wessex	6	14	130	150
	4.0%	9.3%	86.7%	100.0%
West Midlands	16	123	259	398
	4.0%	30.9%	65.1%	100.0%
West Scotland	Withheld:DP		114	156
			73.1%	100.0%
Yorkshire & The Humber	8	36	233	277
	2.9%	13.0%	84.1%	100.0%
Total	137	553	2799	3489
	3.9%	15.8%	80.2%	100.0%

B: Main Results: Overall, & by Exam Diet, Stage & Attempt (All Candidates)

1. AKT Result & Scores (scaled; pass mark = 0), overall and by exam diet (all candidates)
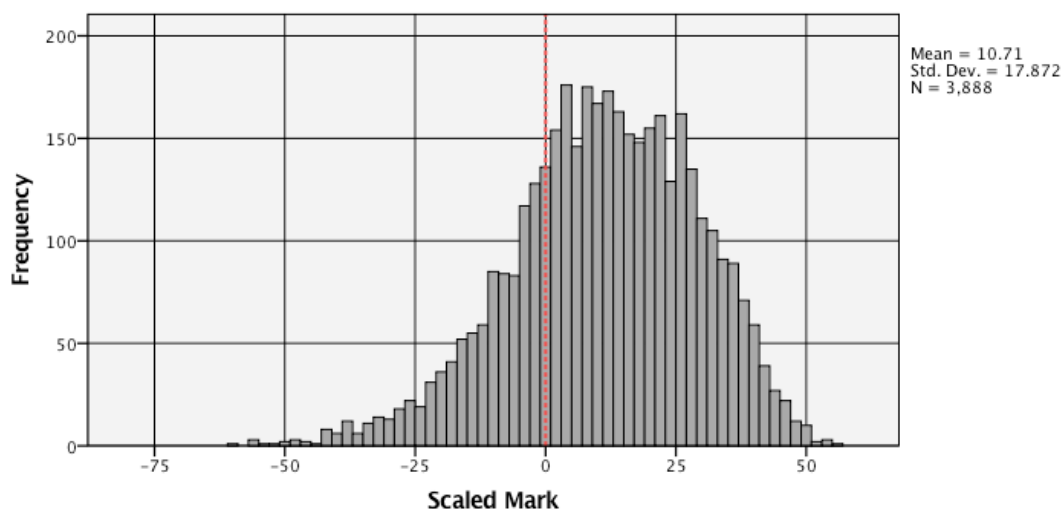
AKT	Result		Total N	Scaled Mark			
	Fail	Pass		Min.	Max.	Mean	SD
AKT 25 - AKT 27	983	2905	3888	-60	55	10.7	17.9
	25.3%	74.7%					
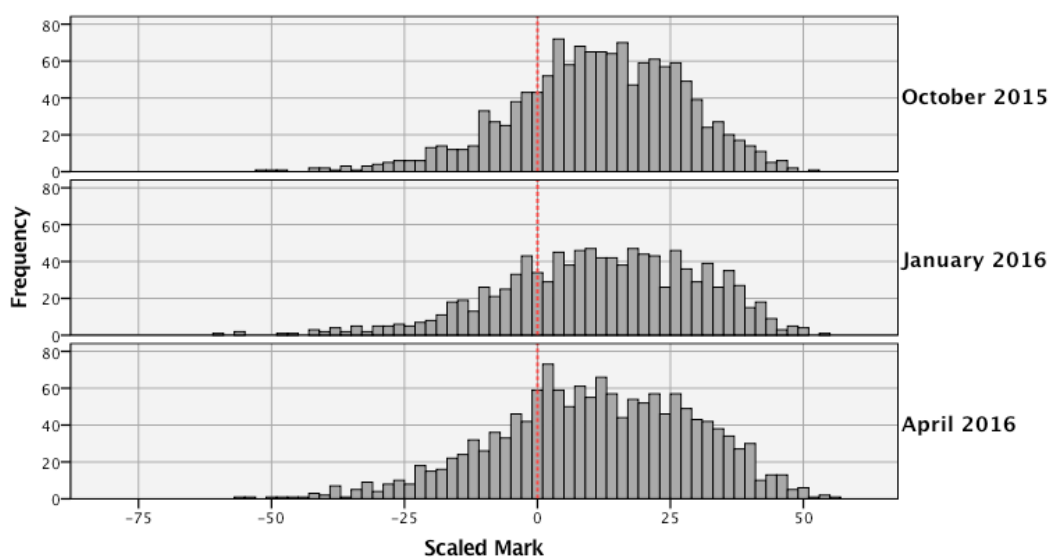
AKT Diet	Result		Total N	Scaled Mark			
	Fail	Pass		Min.	Max.	Mean	SD
AKT 25 October 2015	293	1035	1328	-52	51	10.8	16.1
	22.1%	77.9%					
AKT 26 January 2016	285	798	1083	-60	53	11.2	18.7
	26.3%	73.7%					
AKT27 April 2016	405	1072	1477	-56	55	10.2	18.8
	27.4%	72.6%					

2. AKT Result and scores, by Stage (Year) of Training (candidates on first attempt)

Training Year	Result		Total N	Scaled Mark			
	Fail	Pass		Min.	Max.	Mean	SD
ST 2	444	1872	2316	-56	53	14.6	18.0
	19.2%	80.8%	100.0%				
ST 3	152	526	678	-56	55	11.6	17.3
	22.4%	77.6%	100.0%				
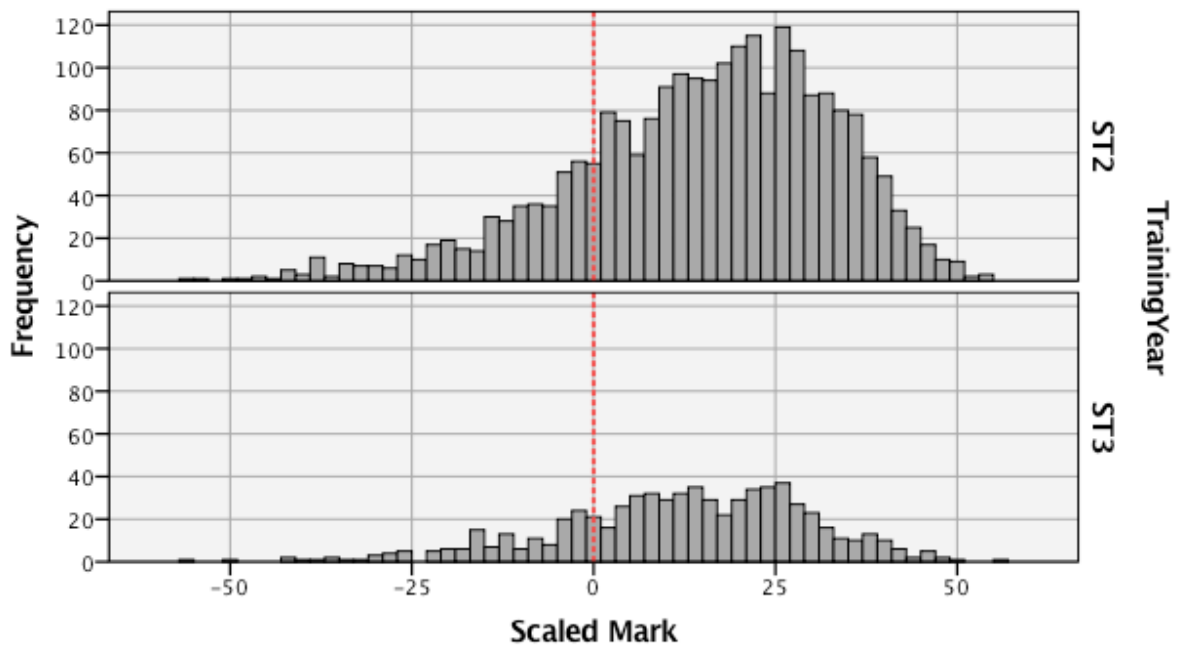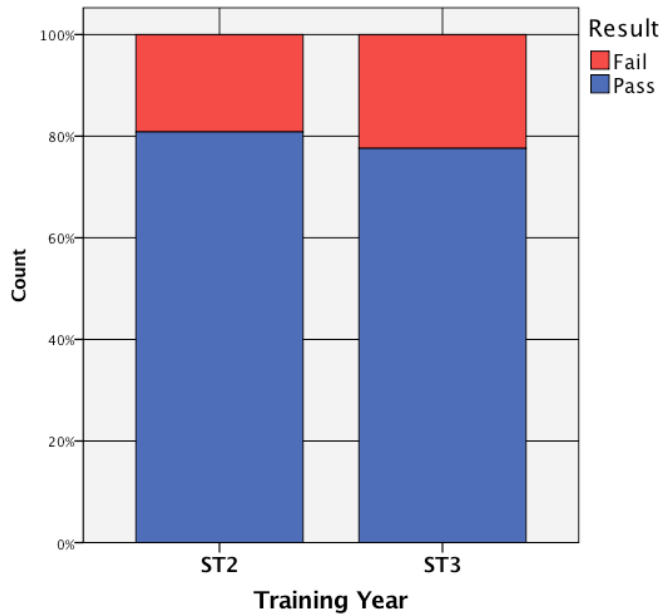
3. Result and scores, by attempt at the AKT: all graduates, and separated by source of primary medical qualification, UK/non-UK (all candidates)

Attempt	UKG			IMG			All Candidates		
	Fail	Pass	Total N	Fail	Pass	Total N	Fail	Pass	Total N
	N/%	N/%		N/%	N/%		N/%	N/%	
1	371	2168	2539	225	230	455	596	2398	2994
	14.6%	85.4%	100.0%	49.5%	50.5%	100.0%	19.9%	80.1%	100.0%
2	123	223	346	112	90	202	235	313	548
	35.5%	64.5%	100.0%	55.4%	44.6%	100.0%	42.9%	57.1%	100.0%
3	39	79	118	56	55	111	95	134	229
	33.1%	66.9%	100.0%	50.5%	49.5%	100.0%	41.5%	58.5%	100.0%
4	11	19	30	32	27	59	43	46	89
	36.7%	63.3%	100.0%	54.2%	45.8%	100.0%	48.3%	51.7%	100.0%
5+	5	6	11	9	8	17	14	14	28
	45.5%	54.5%	100.0%	52.9%	47.1%	100.0%	50.0%	50.0%	100.0%
All	549	2495	3044	434	410	844	983	2905	3888
	18.0%	82.0%	100.0%	51.4%	48.6%	100.0%	25.3%	74.7%	100.0%

Attempt	UK or Non-UK Graduate	N	Min.	Max.	Mean	SD
1	IMG	455	-56	41	-1.31	19.37
	UKG	2539	-56	55	16.65	16.19
2	IMG	202	-60	23	-4.50	14.52
	UKG	346	-52	36	2.61	11.77
3	IMG	111	-48	29	-2.41	12.72
	UKG	118	-30	21	2.29	10.87
4	IMG	59	-42	26	-1.80	12.50
	UKG	30	-12	18	2.70	8.96
5+	IMG	17	-17	21	0.24	12.00
	UKG	11	-30	26	-2.27	18.34
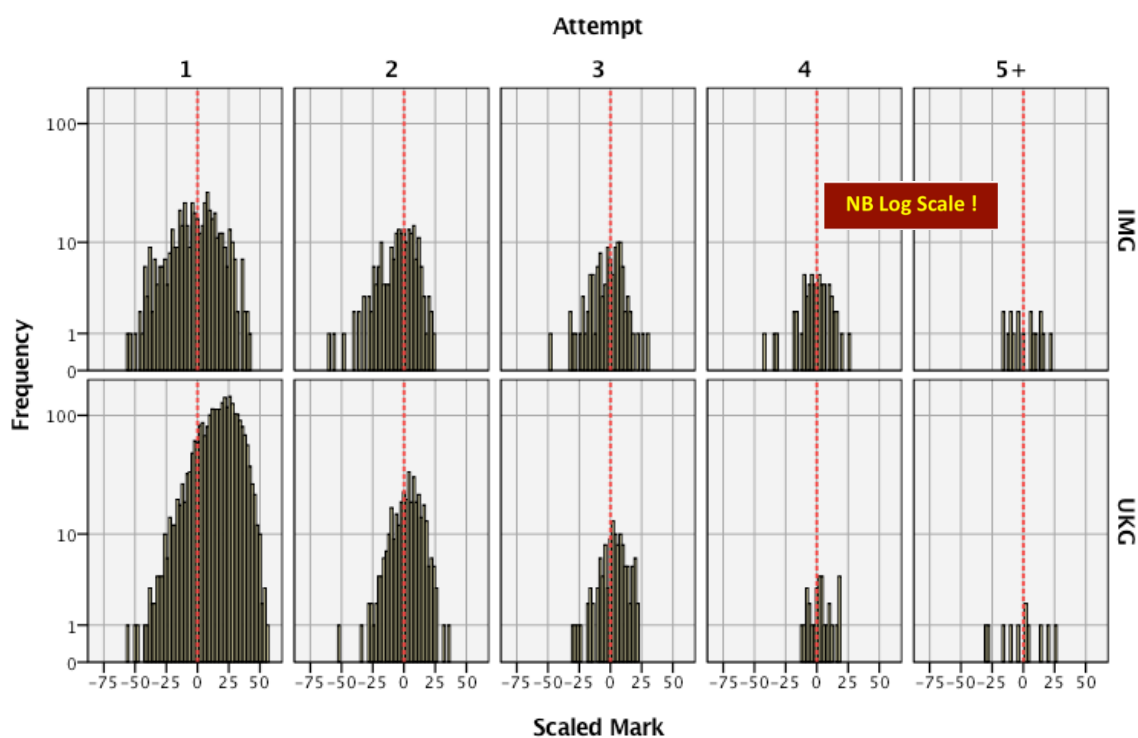
4. Score on AKT on first attempt (linear Y scale) by source of PMQ, UK and non-UK Graduates compared – scaled to show contrast
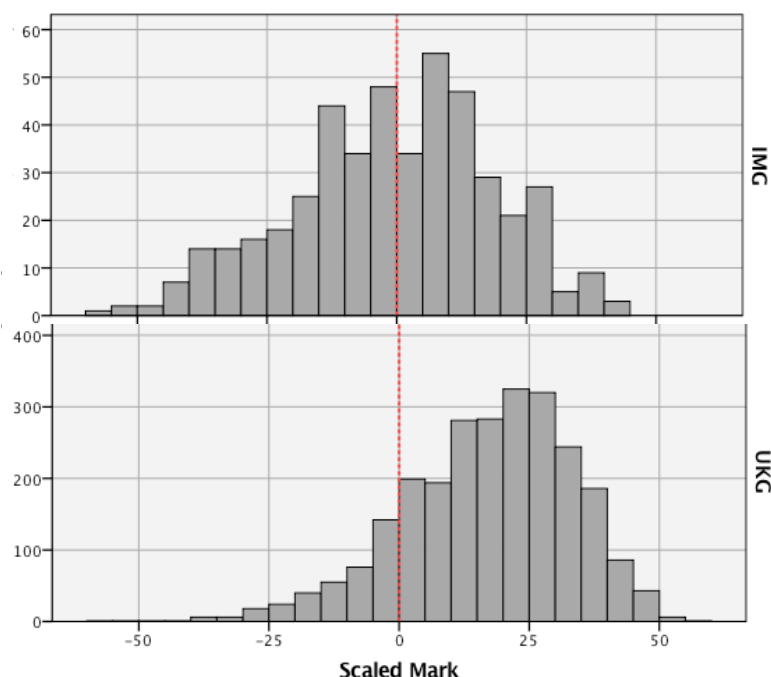
5. Candidates with Disabilities: prevalence by attempt and source of PMQ; outcomes

UK Equality Legislation supports examination candidates with disabilities in requesting 'reasonable accommodations' in regard to their disabilities, without affecting the standard of the examination. The tables below record the prevalence of such candidates in attempts at the AKT in 2015-16, together with the results of the assessments. Specific Learning Disability (SLD) is the disability most frequently reported. Disabilities other than SLD have been merged for reasons of small numbers and personal confidentiality, the commonest ones being a hearing impairment, disabling medical condition and multiple disabilities. Note, importantly, that SLD may not be diagnosed until a second or later attempt at the assessment.

There were 216 disabled candidate-attempts at the AKT (see first, blue, table below), representing 5.6% of attempts. The second, green table shows the outcomes for these candidates. Multivariate analysis of the current year's data suggests that the amount of variance in the scaled mark attributable to 'disability / no disability' is 0.3%. The overall number of successful attempts by candidates with disabilities was 140, or 65%.

Candidates with Disabilities: Numbers Sitting						
Disability	AKT Attempt					Total
	1	2	3	4	5+	
Specific learning difficulty	102	24	22	24	14	186
Other (or multiple) Disabilities	19	7	7	6	1	30
All Disabilities	121	31	29	30	15	216
No Disabilities	2874	519	203	63	13	3672
All Candidates	2994	548	229	89	28	3888

Candidates with Disabilities: Pass Rates (%)						
Disability	AKT Attempt					Total
	1	2	3	4	5+	
Specific learning difficulty	77.5%	41.7%	50.0%	54.2%	64.3%	65.6%
Other (or multiple) Disabilities	84.2%	14.3%	14.3%	0.0%	0.0%	60.0%
All Disabilities	78.5%	35.5%	41.4%	43.3%	60.0%	64.8%
No Disabilities	80.1%	58.2%	60.1%	52.4%	38.5%	75.3%
All Candidates	80.1%	57.1%	58.5%	51.7%	50.0%	74.7%

C: Results by Individual Demographics (Candidates on first attempt, only)

1. AKT Result and scores by candidate sex, and within source of PMQ (1st attempt)

Result by Candidate Sex and source of PMQ (Information withheld by 7 candidates: explains slightly paradoxical 'N Cands')							
Source of PMQ	Sex	N Cands	Pass Rate %	Scaled Mark			
				Min	Max	Mean	SD
IMG	Female	257	49.0%	-46	41	-0.3	18.7
	Male	197	52.3%	-56	40	-2.7	20.1
	Total	455	50.5%	-56	41	-1.3	19.4
UKG	Female	1649	86.4%	-51	55	17.4	16.0
	Male	884	83.4%	-56	52	15.3	16.5
	Total	2539	85.4%	-56	55	16.7	16.2
Total	Female	1906	81.4%	-51	55	15.0	17.4
	Male	1081	77.7%	-56	52	12.0	18.6
	Total	2994	80.1%	-56	55	13.9	17.9

Primary Medical Qualification

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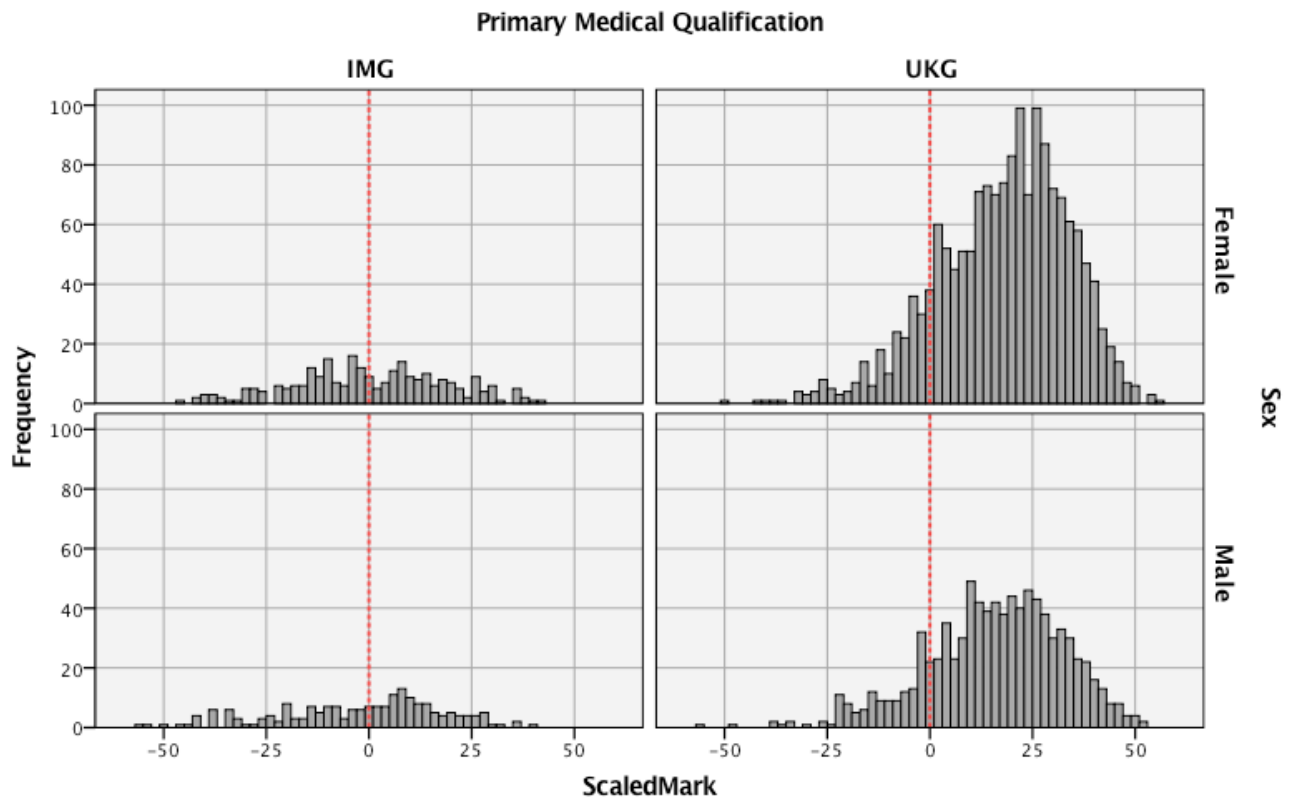
2. AKT Result by classified candidate ethnicity, and separated by source of primary medical qualification; scaled mark by ethnicity (1st attempt)

Source of PMQ	Ethnic Group	N Cands	Pass Rate %	Scaled Mark			
				Min	Max	Mean	SD
Non-UK Graduate	Black	98	51.0%	-46	30	-3.2	18.3
	Chinese / SE Asian			Withheld: DP			
	Other / Mixed Ethnicity	41	48.8%	-54	32	-2.4	21.0
	S Asian	224	43.8%	-56	36	-3.8	18.9
	White	74	66.2%	-38	41	7.0	19.7
	Total	455	50.5%	-56	41	-1.3	19.4
UK Graduate	Black	56	73.2%	-51	39	5.3	18.0
	Chinese / SE Asian	69	73.9%	-39	49	10.9	17.3
	Other / Mixed Ethnicity	122	83.6%	-35	49	15.6	16.4
	S Asian	583	74.6%	-48	51	10.9	17.2
	White	1623	90.3%	-43	55	19.6	14.6
	Total	2539	85.4%	-56	55	16.7	16.2
All Graduates	Black	154	59.1%	-51	39	-0.1	18.6
	Chinese / SE Asian	71	74.6%	-39	49	11.3	17.3
	Other / Mixed Ethnicity	163	74.8%	-54	49	11.1	19.3
	S Asian	807	66.0%	-56	51	6.8	18.8
	White	1697	89.3%	-43	55	19.0	15.1
	Total	2994	80.1%	-56	55	13.9	17.9

Result by Candidate Ethnicity: Candidates on First Attempt
(102 candidates witheld the information: explains parodoxical 'N Cands')
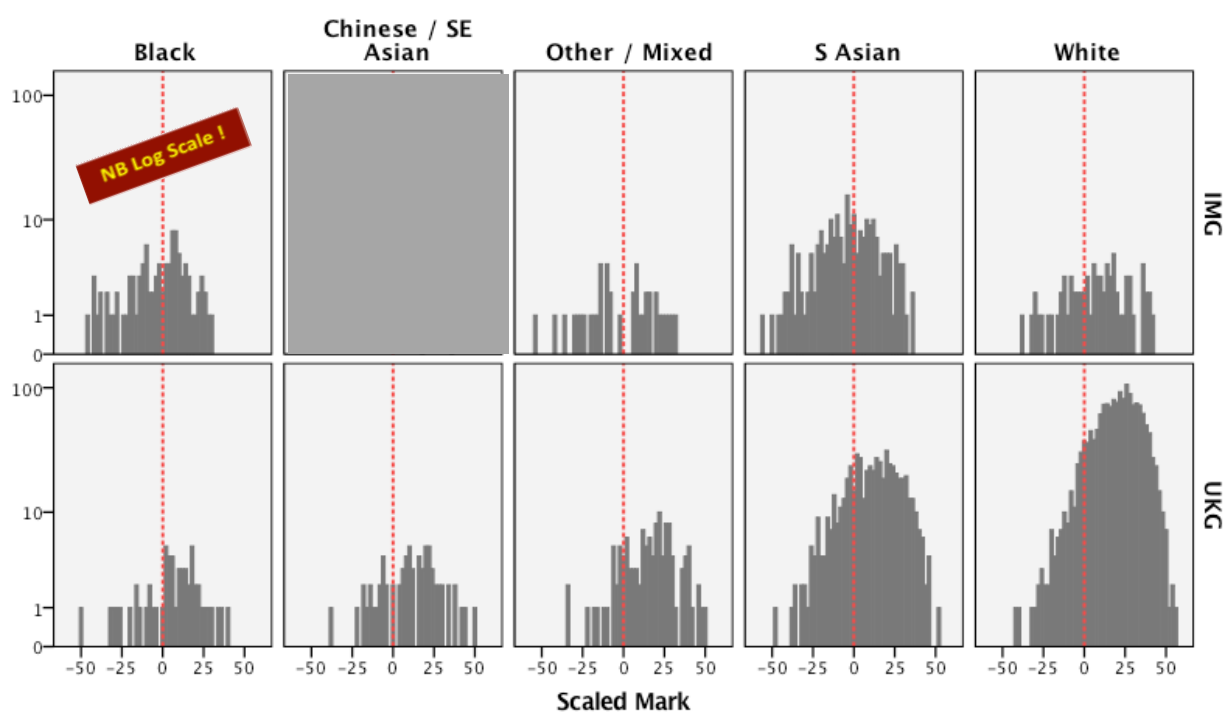
3. AKT Result and Scores by PMQ (medical school; country) on 1st attempt

UK Graduates
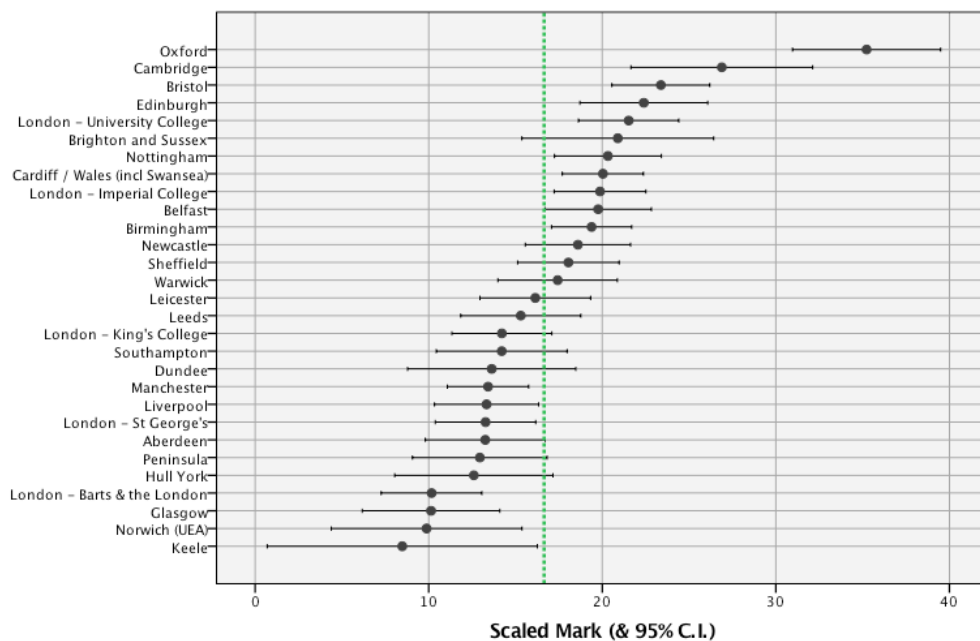
Scaled Mark (& 95% C.I.)

Performance by UK Medical School							
Medical School	**N Cands**	**Scaled Mark**				**Result**	
		Min	Max	Mean	SD	Fail	Pass
Aberdeen	77	-33	44	13.26	15.22	16.9%	83.1%
Belfast	72	-19	50	19.76	13.05	5.6%	94.4%
Birmingham	177	-26	51	19.38	15.57	11.3%	88.7%
Brighton and Sussex	37	-30	45	20.89	16.58	10.8%	89.2%
Bristol	96	-15	53	23.38	13.92	4.2%	95.8%
Cambridge	35	-22	49	26.89	15.24	2.9%	97.1%
Cardiff / Wales (incl Swansea)	107	-23	44	20.04	12.21	3.7%	96.3%
Dundee	46	-30	48	13.63	16.32	19.6%	80.4%
Edinburgh	69	-26	49	22.39	15.34	7.2%	92.8%
Glasgow	74	-43	43	10.14	17.12	27.0%	73.0%
Hull York	65	-56	47	12.60	18.41	13.8%	86.2%
Keele	21	-22	44	8.48	17.09	33.3%	66.7%
Leeds	85	-25	47	15.31	16.05	18.8%	81.2%
Leicester	86	-17	42	16.14	14.88	17.4%	82.6%
Liverpool	114	-26	49	13.33	16.15	21.9%	78.1%
London - Barts & the London	126	-33	42	10.17	16.46	23.8%	76.2%
London - Imperial College	108	-16	42	19.87	13.85	9.3%	90.7%
London - King's College	149	-51	47	14.21	17.77	20.8%	79.2%
London - St George's	105	-23	43	13.28	14.95	20.0%	80.0%
London - University College	96	-24	47	21.52	14.29	7.3%	92.7%
Manchester	177	-39	44	13.42	15.79	15.3%	84.7%
Newcastle	109	-25	53	18.60	15.98	11.9%	88.1%
Norwich (UEA)	49	-38	48	9.88	19.13	26.5%	73.5%
Nottingham	105	-20	53	20.32	15.92	14.3%	85.7%
Oxford	26	4	55	35.23	10.57	-	100.0%
Peninsula	55	-28	40	12.95	14.36	16.4%	83.6%
Sheffield	104	-30	49	18.05	15.05	10.6%	89.4%
Southampton	92	-48	46	14.21	18.21	18.5%	81.5%
Warwick	77	-15	49	17.43	15.18	14.3%	85.7%

Non-UK Graduates – Countries with 5+ Candidates, on First Attempt
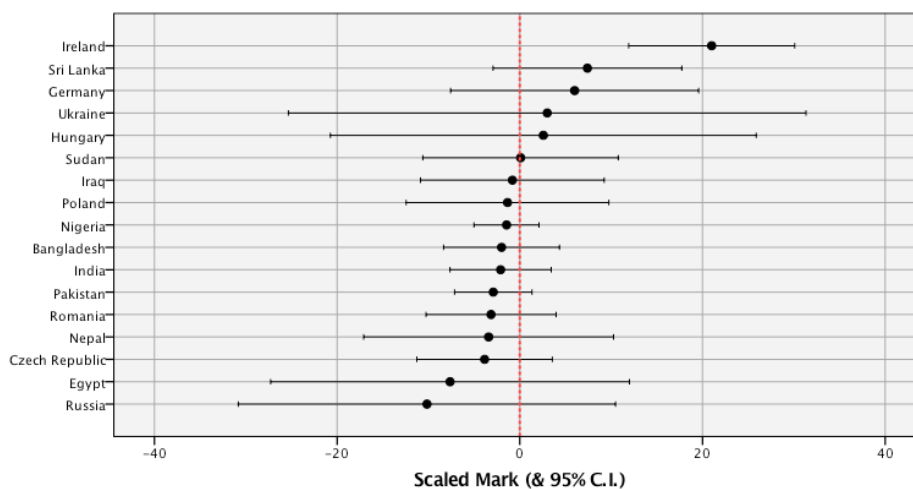
Performance by non-UK Country of PMQ							
PMQ Country	N Cands	Scaled Mark				Result	
		Min	Max	Mean	SD	Fail	Pass
Bangladesh	14	-14	22	-2.00	11.00	71.4%	28.6%
Czech Republic	28	-42	28	-3.86	19.14	46.4%	53.6%
Egypt	11	-54	27	-7.64	29.23	63.6%	36.4%
Germany	5	-11	16	6.00	10.93	20.0%	80.0%
Hungary	7	-42	40	2.57	25.21	57.1%	42.9%
India	56	-56	31	-2.11	20.70	50.0%	50.0%
Iraq	16	-28	25	-0.81	18.87	50.0%	50.0%
Ireland	12	-13	35	21.00	14.30	8.3%	91.7%
Nepal	12	-34	25	-3.42	21.52	50.0%	50.0%
Nigeria	84	-43	30	-1.45	16.41	47.6%	52.4%
Pakistan	89	-51	36	-2.91	20.12	51.7%	48.3%
Poland	20	-46	36	-1.35	23.72	45.0%	55.0%
Romania	13	-20	25	-3.15	11.79	61.5%	38.5%
Russia	6	-35	16	-10.17	19.68	66.7%	33.3%
Sri Lanka	5	1	22	7.40	8.33	-	100.0%
Sudan	12	-31	21	0.08	16.85	41.7%	58.3%
Ukraine	6	-39	38	3.00	27.00	33.3%	66.7%

D: Results by Training Deanery

1. Error bar graphs of mean Candidate Scores by Deanery, by source of PMQ
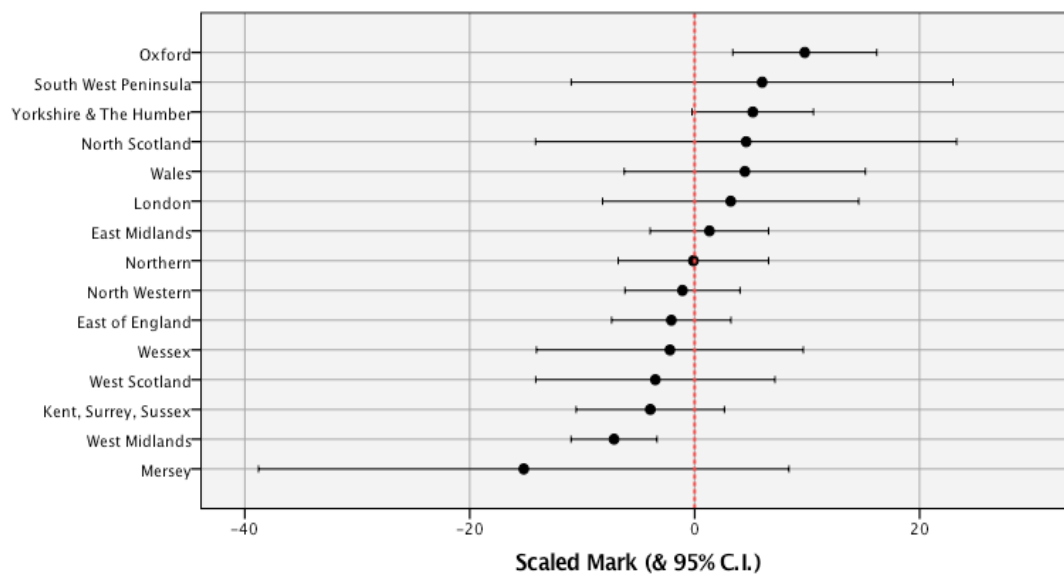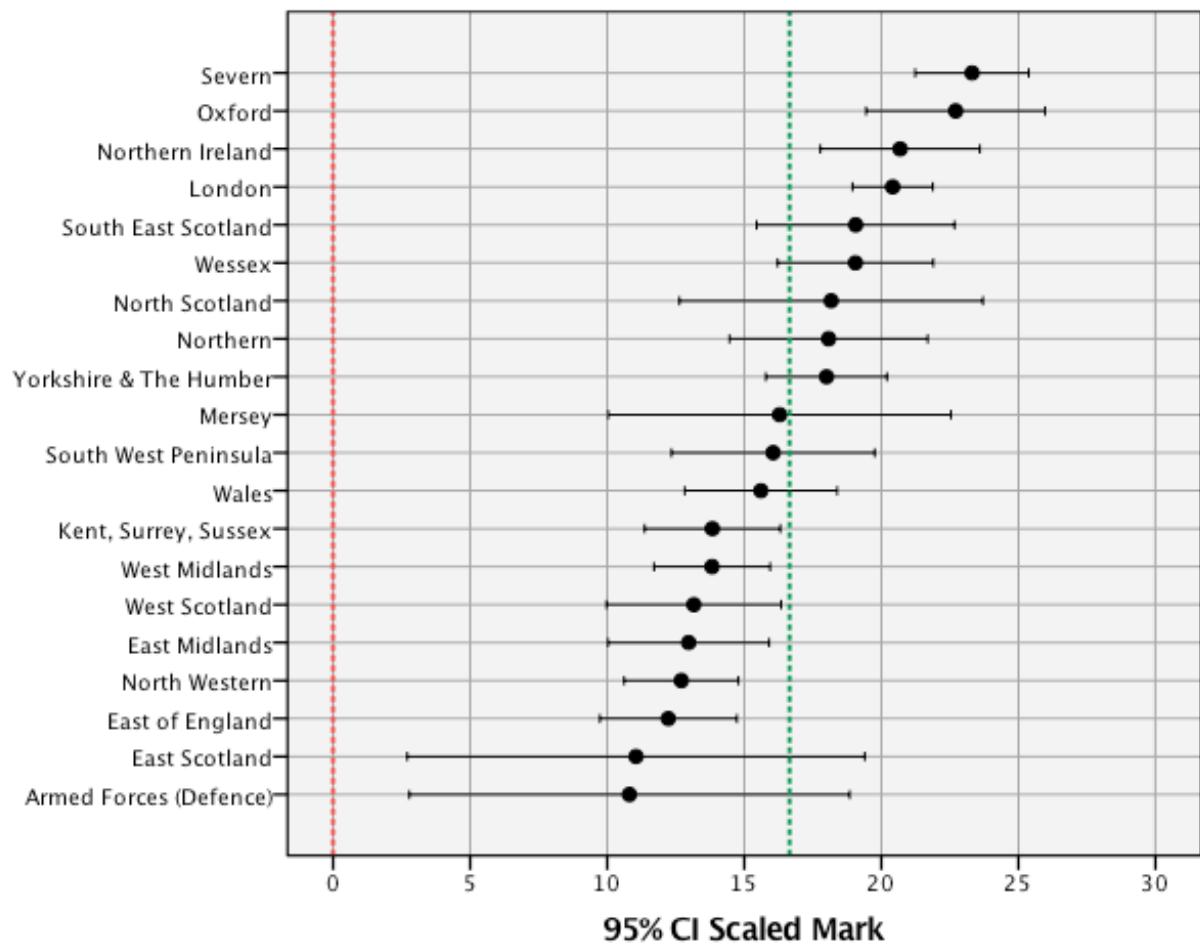
UK Graduates, First Attempt
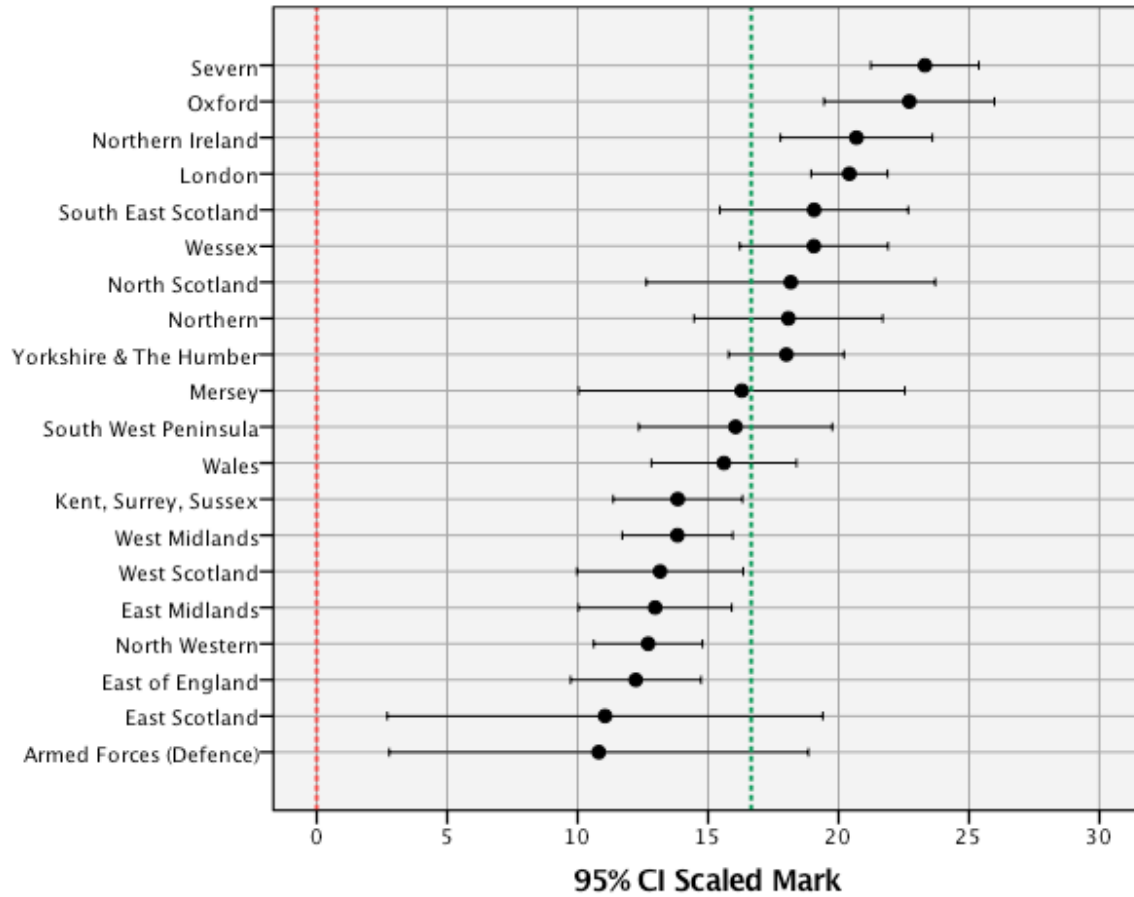

Non-UK Graduates, First Attempt

All Graduates, All Attempts

95% CI Scaled Mark

E: Analyses of AKT sub-Scores

1. Overall pattern of scores, UK graduates and IMGs compared on first attempt; descriptive statistics of the three scores, place of PMQ and training year compared

Candidate Group	Question Group	N Cands.	Descriptive Statistics			
			Min.	Max.	Mean	SD
IMG	Clinical Medicine	455	39.38	90.63	69.76	10.50
	Evidence Interpretation	455	15.00	100.00	62.81	16.89
	Organisational Questions	455	25.00	100.00	66.44	13.28
UKG	Clinical_Medicine	2539	38.75	96.88	77.71	8.63
	Evidence_Interpretation	2539	30.00	100.00	81.13	13.11
	Organisational_Questions	2539	30.00	100.00	77.21	11.17
ST 2	Clinical_Medicine	2316	39.38	96.88	76.50	9.51
	Evidence_Interpretation	2316	15.00	100.00	78.36	15.42
	Organisational_Questions	2316	25.00	100.00	75.31	12.30
ST 3	Clinical_Medicine	678	38.75	95.63	76.51	8.92
	Evidence_Interpretation	678	25.00	100.00	78.31	14.62
	Organisational_Questions	678	30.00	100.00	76.47	11.55
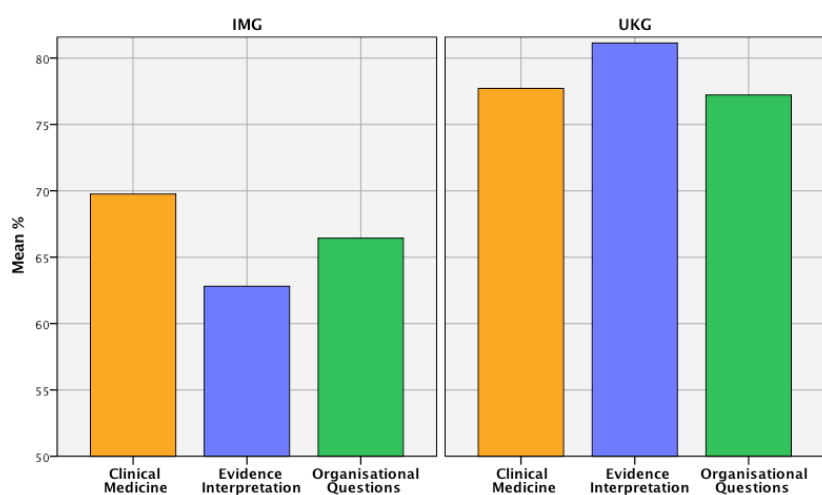
2. Correlations between AKT section scores and total score: all candidates

Inter-Section Correlations -- All Candidates				
	Clinical Medicine	Evidence Interpretation	Organisational Questions	Total Score
Clinical Medicine (80% of items)	1.000	0.511	0.562	0.978
Evidence Interpretation (10% of items)		1.000	0.490	0.655
Organisational Questions (10% of items)			1.000	0.676
Total Score				1.000

N = 3888. All correlations significant at the 0.001 level (1-tailed)

4: CSA Statistics

A: Summary of Candidate Demographics

3281 candidates made a total of 3830 attempts at the CSA during 2015-16. The tables below show the origin of the 3281 candidates, by UK medical school or non-UK country of primary medical qualification—and the percentage from each out of the total of that part of the candidature. On the following page, the background demographic characteristics of the 3281 are shown, by training Deanery. Other tables report on the 3830 attempts.

1. Source of Primary Medical Qualification

All Graduates: UK, EEA or Rest of the World		
Group	**N**	**%**
EEA Graduates	91	2.8
Graduates from Rest of World	546	16.6
UK Graduates	2644	80.6
Total	**3281**	**100.0**

EEA Graduates		
Country of PMQ	**N**	**%**
Czech Republic	22	24.2%
Greece	5	5.5%
Ireland	16	17.6%
Poland	13	14.3%
Romania	10	11.0%
Other Countries (< 5 each)	25	27.5%
Total	**91**	**100.0%**

Graduates from the Rest of the World		
Country of PMQ	**N**	**%**
Afghanistan	3	0.5%
Bangladesh	19	3.5%
China	6	1.1%
Egypt	13	2.4%
India	122	22.3%
Iran	5	0.9%
Iraq	16	2.9%
Nepal	5	0.9%
Nigeria	107	19.6%
Pakistan	154	28.2%
Philippines	6	1.1%
Russia	9	1.6%
South Africa	7	1.3%
Sri Lanka	8	1.5%
Sudan	14	2.6%
Ukraine	13	2.4%
West Indies	5	0.9%
Other Countries (< 5 each)	34	6.2%
Total	**546**	**100.0%**

Graduates of UK Medical Schools		
Medical School	**N**	**%**
Aberdeen	71	2.7
Belfast	68	2.6
Birmingham	149	5.6
Brighton and Sussex	41	1.6
Bristol	64	2.4
Cambridge	32	1.2
Cardiff / Wales (incl Swansea)	140	5.3
Dundee	41	1.6
Edinburgh	68	2.6
Glasgow	69	2.6
Hull York	53	2.0
Keele	19	0.7
Leeds	87	3.3
Leicester	99	3.7
Liverpool	134	5.1
London - School Unknown	2	0.1
London - Barts & the London	131	5.0
London - Imperial College	112	4.2
London - King's College	184	7.0
London - St George's	110	4.2
London - University College	115	4.3
Manchester	194	7.3
Newcastle	128	4.8
Norwich (UEA)	52	2.0
Nottingham	118	4.5
Oxford	32	1.2
Peninsula	64	2.4
Sheffield	104	3.9
Southampton	102	3.9
Warwick	61	2.3
Total	**2644**	**100.0**

2. CSA Candidates' Place of PMQ, by Training Deanery/LETB

Deanery / LETB	Source of PMQ: UK, EEA, Rest of World			Total
	EEA	**RoW**	**UK**	
Armed Forces (Defence)	Withheld: DP		25	25
			100.0%	100.0%
East Midlands	13	60	173	246
	5.3%	24.4%	70.3%	100.0%
East of England	15	74	202	291
	5.2%	25.4%	69.4%	100.0%
East Scotland	Withheld: DP		25	28
			89.3%	100.0%
Kent, Surrey, Sussex	8	34	198	240
	3.3%	14.2%	82.5%	100.0%
London	6	10	386	402
	1.5%	2.5%	96.0%	100.0%
Mersey	Withheld: DP		111	139
			79.9%	100.0%
North Scotland	Withheld: DP		39	50
			78.0%	100.0%
North Western	6	76	197	279
	2.2%	27.2%	70.6%	100.0%
Northern	9	61	93	163
	5.5%	37.4%	57.1%	100.0%
Northern Ireland	Withheld: DP		71	73
			97.3%	100.0%
Oxford	Withheld: DP		94	99
			94.9%	100.0%
Severn	Withheld: DP		126	131
			96.2%	100.0%
South East Scotland	Withheld: DP		51	52
			98.1%	100.0%
South West Peninsula	Withheld: DP		82	87
			94.3%	100.0%
Wales	Withheld: DP		114	124
			91.9%	100.0%
Wessex	Withheld: DP		126	144
			87.5%	100.0%
West Midlands	12	92	213	317
	3.8%	29.0%	67.2%	100.0%
West Scotland	Withheld: DP		95	135
			70.4%	100.0%
Yorkshire & The Humber	Withheld: DP		223	256
			87.1%	100.0%
Total	**91**	**546**	**2644**	**3281**
	2.8%	**16.6%**	**80.6%**	**100.0%**

2. CSA Candidates' Place of PMQ, by Training Deanery/LETB

B: Main Results: Overall, and by Exam Diet and Attempt (All Candidates)

## 1. CSA Result and scores, overall and by Diet (all candidates/attempts)

Candidates

| Exam Diet	Attempt					
	1	2	3	4	5+	All
November 2015	171	48	57	13	3	292
	58.6%	16.4%	19.5%	4.5%	1.0%	100.0%
December 2015	336	30	33	10	7	416
	80.8%	7.2%	7.9%	2.4%	1.7%	100.0%
January 2016	664	34	23	23	0	744
	89.2%	4.6%	3.1%	3.1%	0.0%	100.0%
February 2016	456	6	1	1	1	465
	98.1%	1.3%	0.2%	0.2%	0.2%	100.0%
March 2016	904	46	13	7	3	973
	92.9%	4.7%	1.3%	0.7%	0.3%	100.0%
April 2016	255	112	8	4	2	381
	66.9%	29.4%	2.1%	1.0%	0.5%	100.0%
May 2016	238	253	31	29	8	559
	42.6%	45.3%	5.5%	5.2%	1.4%	100.0%
Total	3024	529	166	87	24	3830
	79.0%	13.8%	4.3%	2.3%	0.6%	100.0%
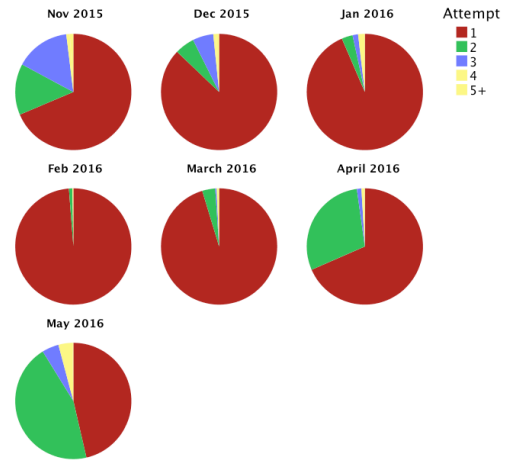
Results

The pass-mark varies slightly day-on-day (see introduction): marks have been re-scaled in this report to a pass-mark of zero.

| Results Overall and by Diet: All Candidates					
CSA Diet	N Cands	Pass Rate	Scaled Mark		
		%	Min	Max	Mean	SD
November 2015	292	69.9	-20	33	6.18	11.61
December 2015	416	74.8	-23	31	7.29	11.30
January 2016	744	78.9	-28	34	8.40	11.12
February 2016	465	89.0	-26	35	10.85	9.57
March 2016	973	76.9	-38	33	7.03	11.25
April 2016	381	83.2	-36	31	8.46	9.89
May 2016	559	69.1	-27	33	4.56	10.79
All Diets	3830	77.5	-38	-35	7.51	11.00
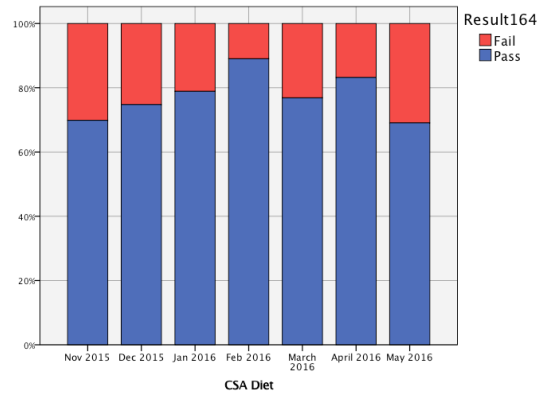
All Candidates
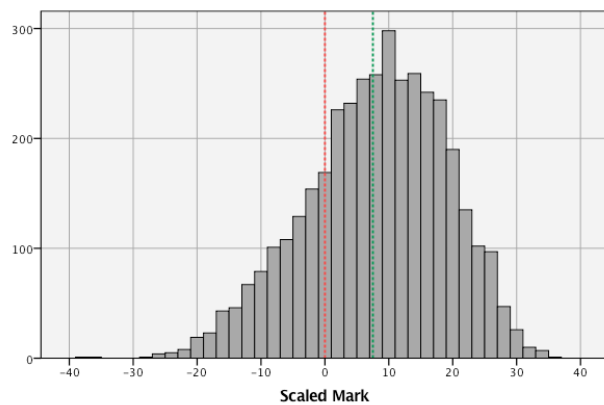
By Diet
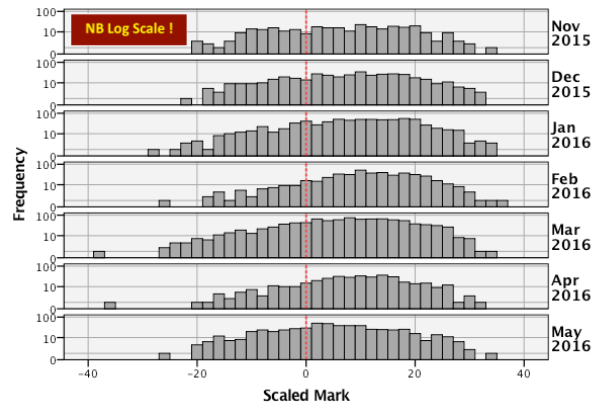
2. Result and scores, by attempt at the CSA: all graduates, and separated by source of primary medical qualification, UK/non-UK (all candidates)

Result

Attempt	UK or Non-UK Graduate	No. of Candidates	Fail	Pass
1	IMG	452	59.10%	40.90%
	UKG	2572	10.80%	89.20%
2	IMG	252	46.80%	53.20%
	UKG	277	18.10%	81.90%
3	IMG	122	55.70%	44.30%
	UKG	44	34.10%	65.90%
4	IMG	74	59.50%	40.50%
	UKG	13	46.20%	53.80%
5+	IMG	21	66.70%	33.30%
	UKG	Withheld: DP		
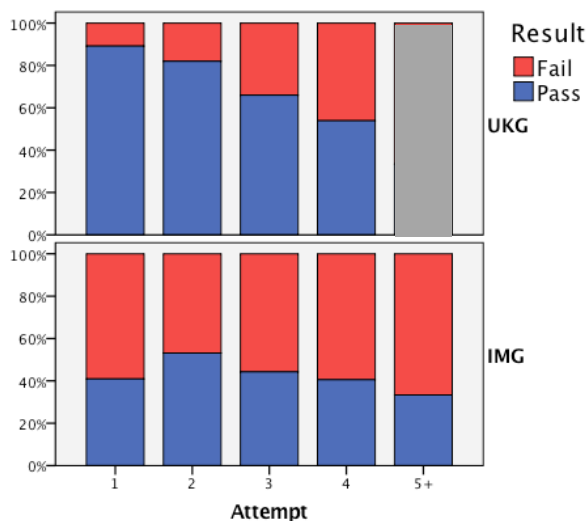
Candidates' Score, by Attempt and source of PMQ

Attempt	UK or Non-UK Graduate	Min	Max	Mean	SD
1	IMG	-38	31	-3.0	10.2
	UKG	-22	35	11.2	9.4
2	IMG	-28	22	-0.8	8.9
	UKG	-23	27	6.9	8.8
3	IMG	-25	25	-2.4	8.9
	UKG	-18	18	2.3	8.8
4	IMG	-23	17	-2.8	8.0
	UKG	-23	11	-1.5	9.9
5+	IMG	-15	6	-3.9	6.4
	UKG	Withheld: DP			
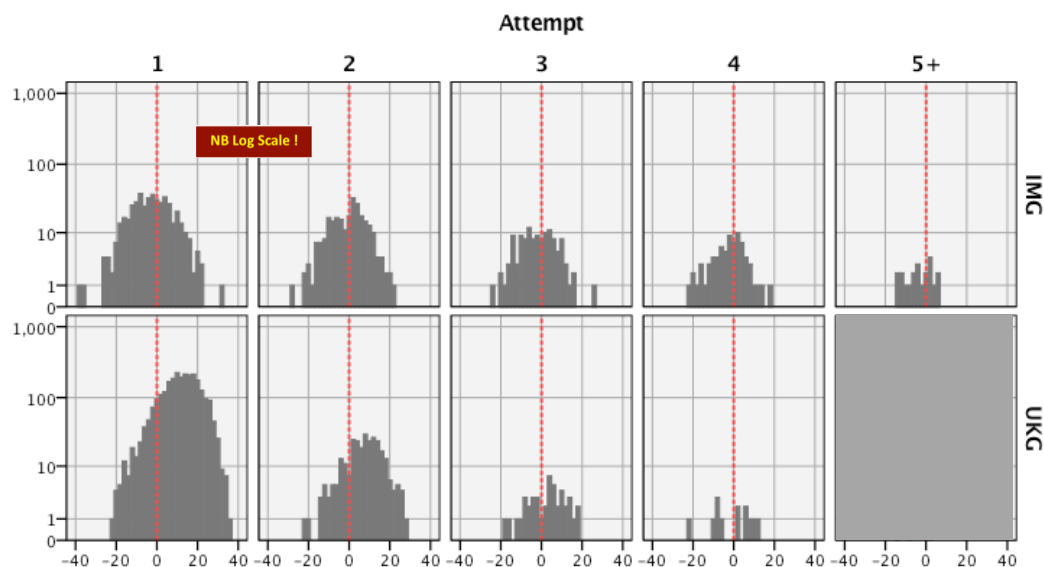
3. Candidates with Disabilities: prevalence by PMQ and by attempt; outcomes

UK Equality Legislation supports examination candidates with disabilities in requesting 'reasonable accommodations' in regard to their disabilities, without affecting the standard of the examination. The tables below record the prevalence of such candidates in attempts at the CSA in 2015-16, together with the results of the assessments. Specific Learning Disability (SLD) is the disability most frequently reported. Disabilities other than SLD have been merged for reasons of small numbers and personal confidentiality, the commonest ones being hearing impairment and visual impairment.

Note, importantly, that SLD may not be diagnosed until a second or later attempt at the assessment.

There were 231 disabled candidate-attempts at the CSA (see first, blue, table below), representing 6.0% of attempts. The second, green table shows the outcomes for these candidates. Multivariate analysis of the current year's data suggests that the amount of variance in the CSA scaled mark uniquely attributable to 'disability / no disability' is 0.2%.

The overall number of successful attempts by candidates with disabilities was 147, or 64%.

Candidates with Disabilities: Numbers Sitting	CSA Attempt					Total
Disability	1	2	3	4	5+	Total
Specific Learning Disability	94	32	19	11	5	161
Other (or multiple) Disabilities	42	9	8	7	4	70
All Disabilities	136	41	27	18	9	231
No Disabilities	2888	488	139	69	15	3599
All Candidates	3160	570	193	105	33	3830

Candidates with Disabilities: Pass Rates (%)	CSA Attempt					Total
Disability	1	2	3	4	5+	Total
Specific Learning Disability	76.6%	50.0%	47.4%	27.3%	80.0%	64.6%
Other (or multiple) Disabilities	73.8%	44.4%	62.5%	42.9%	0.0%	61.4%
All Disabilities	75.7%	48.8%	51.9%	33.3%	44.4%	63.6%
No Disabilities	82.2%	69.9%	49.6%	44.9%	26.7%	78.4%
All Candidates	78.4%	63.3%	43.0%	35.2%	24.2%	77.5%

C: Results by Individual Demographics (Candidates on first attempt, only)

### 1. Result and scores by candidate sex, within source of PMQ, and within UK Medical School

| PMQ Group | Performance by Candidate Sex | | | | | | |
| | Group | N Cands | Pass Rate (%) | Scaled Mark | | | |
				Min	Max	Mean	SD
Non-UK Graduate	Female	277	45.8%	-26	31	-1.65	9.80
	Male	175	33.1%	-38	21	-5.10	10.59
	All	452	40.9%	-38	31	-2.99	10.24
UK Graduate	Female	1686	92.8%	-22	35	12.79	8.81
	Male	886	82.2%	-21	31	8.28	9.75
	All	2572	89.2%	-22	35	11.24	9.39
All Graduates	Female	1963	86.2%	-26	35	10.75	10.27
	Male	1061	74.1%	-38	31	6.08	11.06
	All	3024	81.9%	-38	35	9.11	10.79
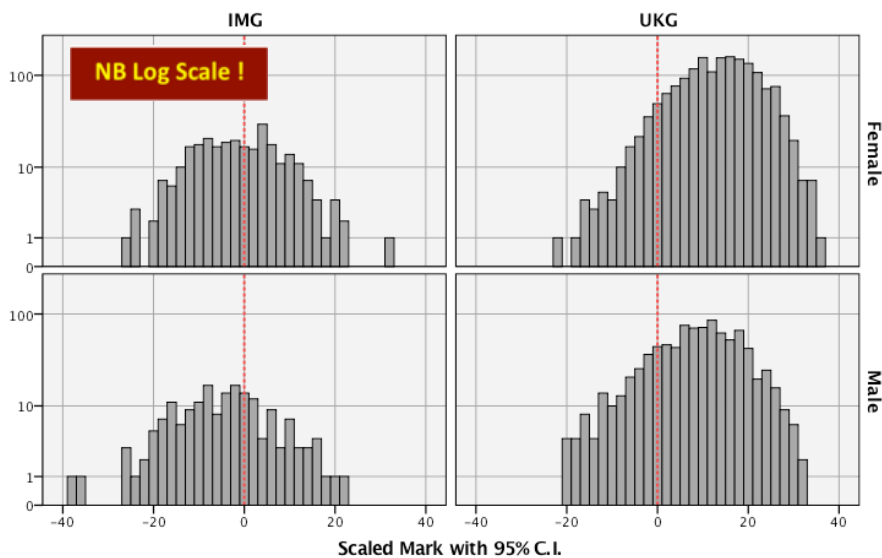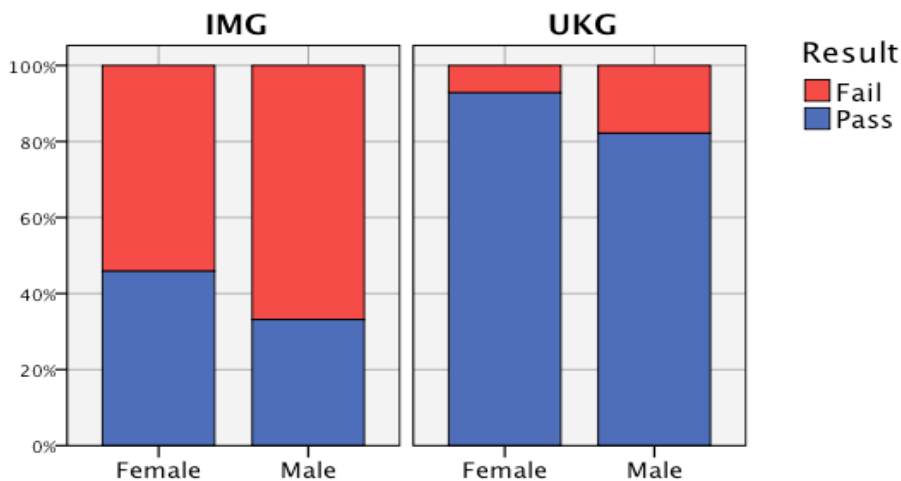
2. Result by classified candidate ethnicity, and separated by source of primary medical qualification, UK/non-UK graduates (1st attempt)

PMQ Group	Performance by Ethnic Group						
	Ethnic Group	N Cands	Pass Rate (%)	Scaled Mark			
				Min	Max	Mean	SD
UK Graduate	Black	54	77.8%	-17	26	5.7	10.0
	Chinese / SE Asian	62	74.2%	-21	26	4.0	10.6
	Mixed / Other Ethnicity	123	78.9%	-21	29	8.5	10.8
	S Asian	557	81.3%	-22	27	7.6	9.3
	White	1698	93.8%	-19	35	13.2	8.6
Non-UK Graduate	Black	83	38.6%	-38	21	-3.9	11.1
	Chinese / SE Asian	Withheld: DP					
	Mixed / Other Ethnicity	40	32.5%	-19	20	-3.2	8.3
	S Asian	253	36.8%	-36	18	-4.4	9.7
	White	65	63.1%	-17	31	3.4	9.8
All Graduates	Black	137	54.0%	-38	26	-0.1	11.6
	Chinese / SE Asian	64	75.0%	-21	26	4.1	10.5
	Mixed / Other Ethnicity	163	67.5%	-21	29	5.7	11.4
	S Asian	810	67.4%	-36	27	3.8	10.9
	White	1763	92.7%	-19	35	12.8	8.8

87 candidates on first attempt witheld ethnicity information
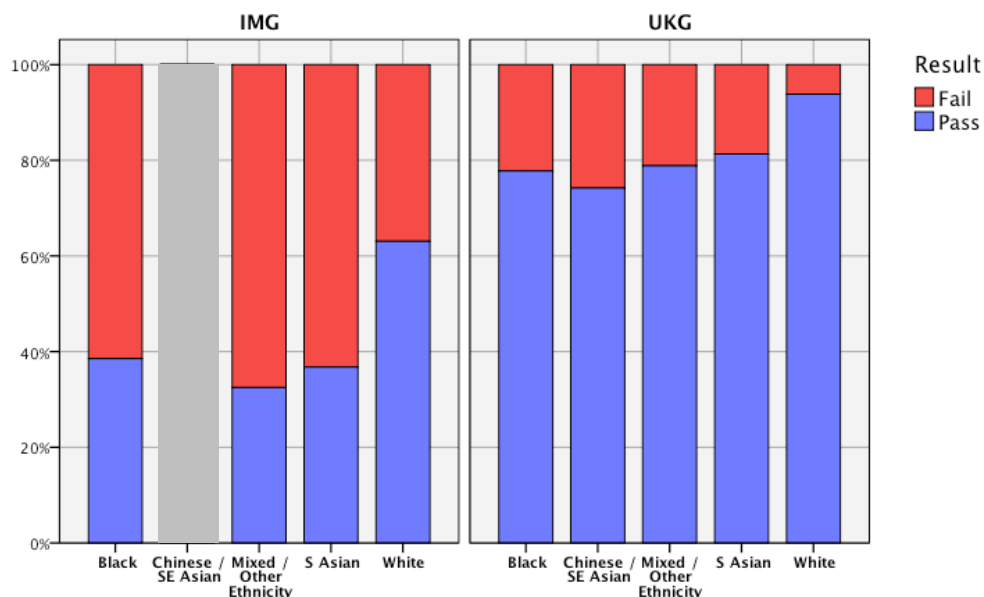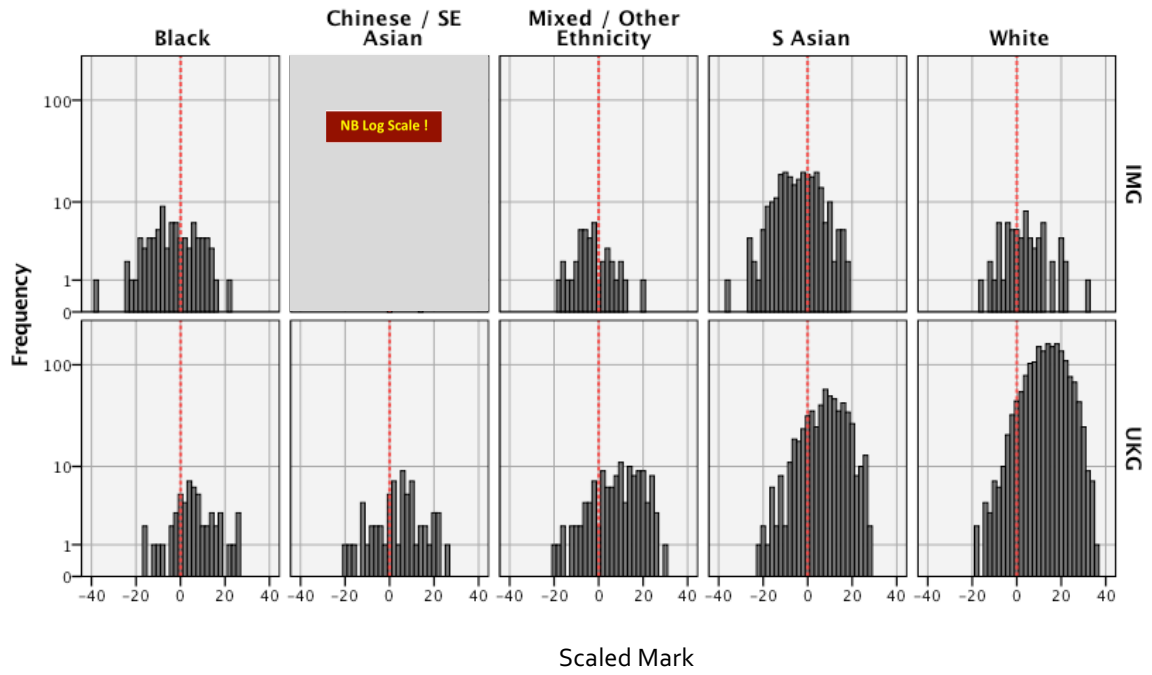
Scaled Mark

UK Graduates (by medical school)

Scaled Mark with 95% C.I.
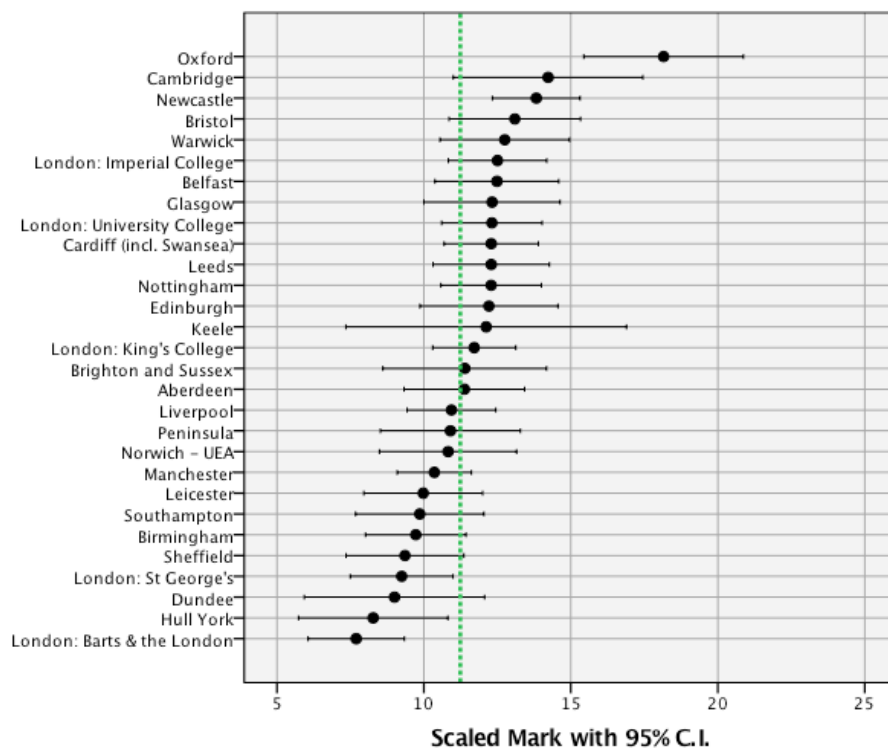
Performance by UK Medical School						
Medical School	**N Cands**	**Pass Rate (%)**	**Scaled Mark**			
			Min	**Max**	**Mean**	**SD**
Aberdeen	69	91.3	-8	28	11.38	8.54
Belfast	68	91.2	-7	30	12.49	8.70
Birmingham	145	82.8	-21	32	9.72	10.44
Brighton and Sussex	41	90.2	-16	28	11.39	8.82
Bristol	63	93.7	-14	32	13.10	8.88
Cambridge	31	90.3	-10	30	14.23	8.80
Cardiff (incl. Swansea)	137	89.1	-22	29	12.29	9.50
Dundee	41	82.9	-13	28	9.00	9.72
Edinburgh	66	90.9	-17	30	12.21	9.56
Glasgow	69	91.3	-21	30	12.32	9.65
Hull York	51	84.3	-15	26	8.27	9.03
Keele	17	82.4	-7	25	12.12	9.29
Leeds	86	91.9	-8	34	12.29	9.23
Leicester	95	87.4	-20	30	9.98	9.93
Liverpool	129	89.1	-12	29	10.94	8.68
London: Barts & the London	122	83.6	-19	27	7.70	9.14
London: Imperial College	109	94.5	-16	30	12.50	8.81
London: King's College	174	88.5	-17	34	11.71	9.47
London: St George's	106	87.7	-13	30	9.25	9.08
London: University College	115	90.4	-20	33	12.31	9.27
Manchester	189	87.8	-17	28	10.35	8.81
Newcastle	124	95.2	-11	31	13.82	8.39
Norwich - UEA	51	92.2	-11	28	10.82	8.29
Nottingham	118	94.1	-18	35	12.29	9.38
Oxford	32	100.0	0	33	18.16	7.53
Peninsula	62	91.9	-17	31	10.90	9.37
Sheffield	101	84.2	-17	28	9.36	10.16
Southampton	99	81.8	-19	27	9.86	10.95
Warwick	60	93.3	-5	33	12.75	8.54

**Non-UK Graduates (by country; data only shown for countries with ≥5 candidates: 1st attempt)**

Scaled Mark with 95% C.I.
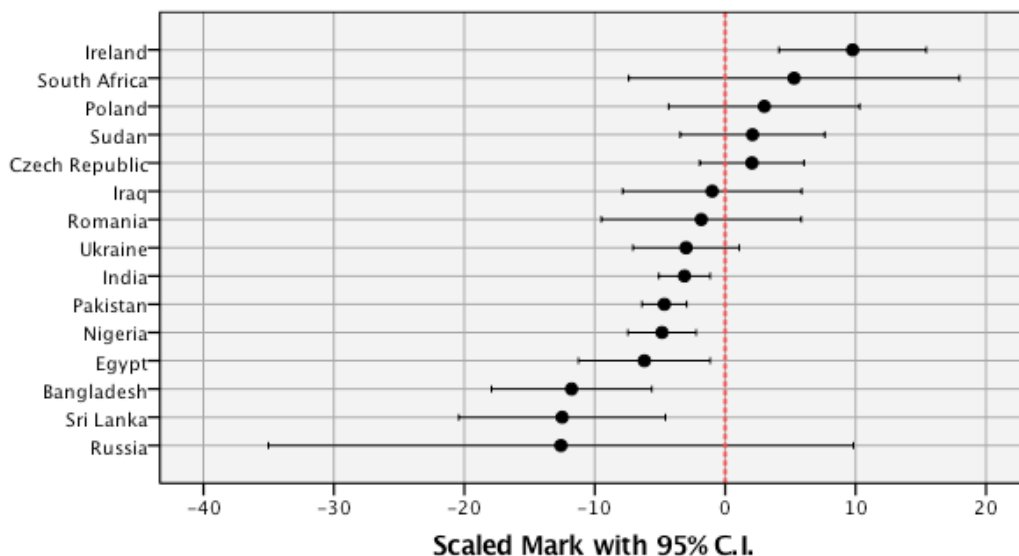
| Performance by Non-UK Graduates by Country of PMQ						
Country of PMQ	N Cands	Pass Rate (%)	Scaled Mark			
			Min	Max	Mean	SD
Bangladesh	9	11.1	-25	0	-11.78	8.00
Czech Republic	20	55.0	-17	18	2.05	8.54
Egypt	10	20.0	-16	6	-6.20	7.07
India	90	46.7	-27	16	-3.12	9.41
Iraq	10	50.0	-11	20	-1.00	9.60
Ireland	13	84.6	-9	22	9.77	9.34
Nigeria	71	32.4	-38	21	-4.85	11.04
Pakistan	108	31.5	-24	16	-4.67	9.05
Poland	9	66.7	-11	16	3.00	9.53
Romania	6	50.0	-11	5	-1.83	7.31
Russia	5	20.0	-36	13	-12.60	18.06
South Africa	7	71.4	-11	31	5.29	13.71
Sri Lanka	8	25.0	-23	2	-12.50	9.47
Sudan	11	63.6	-15	12	2.09	8.26
Ukraine	7	28.6	-10	3	-3.00	4.40

D: Results by Training Deanery/LETB

1. Error bar graphs of Candidate Scores by Deanery, overall, and for first attempts by source of PMQ
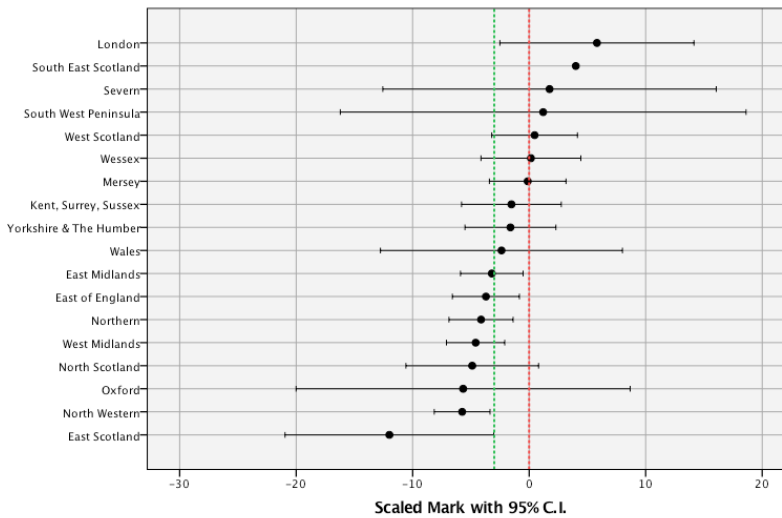
All Graduates, All Attempts
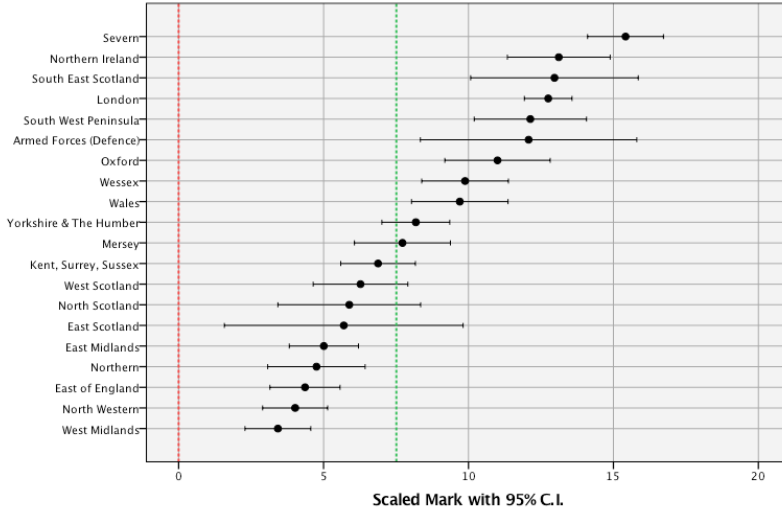
UK Graduates, First Attempt
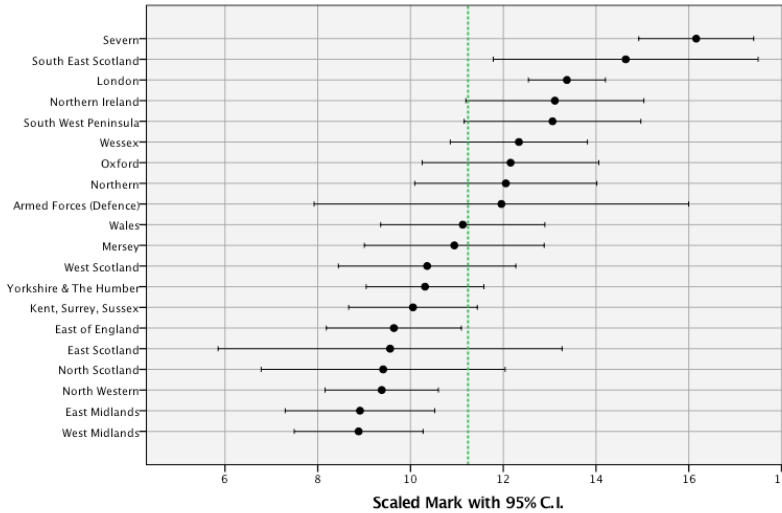
Non-UK Graduates, First Attempt

E: Summary of Feedback Statements

The table gives the prevalence of the numbered feedback statements given by examiners to individual candidates' case performances, by the main two candidate PMQ groups. Figures represent the percentage of the total of all cases on any attempt which attracted that feedback comment.

UK Graduates	In response to percentage of all cases seen
7: Does not develop a management plan reflecting knowledge of current best practice	13%
2: Does not recognise the issues or priorities in the consultation	9%
10: Does not demonstrate an awareness of management of risk or make the patient aware of relative risks of different options	8%
8: Does not show appropriate use of resources, including aspects of budgetary governance	7%
3: Shows poor time management	6%
4: Does not identify abnormal findings or results or fails to recognise their implications	6%
6: Does not make the correct working diagnosis or identify an appropriate range of differential possibilities	6%
15: Does not develop a shared management plan, demonstrating an ability to work in partnership with the patient	6%
1: Disorganised / unstructured consultation	4%
5: Does not undertake physical examination competently, or use instruments proficiently	4%
9: Does not make adequate arrangements for follow-up and safety-netting	4%
12: Does not appear to develop rapport or show awareness of patient's agenda, health beliefs and preferences	4%
14: Does not identify or use appropriate psychological or social information to place the problem in context	4%
16: Does not use language and/or explanations that are relevant and understandable to the patient	4%
13: Poor active listening skills and use of cues. Consulting may appear formulaic, and lacks fluency	3%
11: Does not attempt to promote good health at opportune times in the consultation	1%

Non-UK Graduates	In response to percentage of all cases seen
7: Does not develop a management plan reflecting knowledge of current best practice	19%
2: Does not recognise the issues or priorities in the consultation	14%
15: Does not develop a shared management plan, demonstrating an ability to work in partnership with the patient	12%
16: Does not use language and/or explanations that are relevant and understandable to the patient	11%
3: Shows poor time management	10%
8: Does not show appropriate use of resources, including aspects of budgetary governance	10%
10: Does not demonstrate an awareness of management of risk or make the patient aware of relative risks of different options	10%
13: Poor active listening skills and use of cues. Consulting may appear formulaic, and lacks fluency	10%
4: Does not identify abnormal findings or results or fails to recognise their implications	9%
1: Disorganised / unstructured consultation	8%
6: Does not make the correct working diagnosis or identify an appropriate range of differential possibilities	8%
12: Does not appear to develop rapport or show awareness of patient's agenda, health beliefs and preferences	8%
5: Does not undertake physical examination competently, or use instruments proficiently	7%
9: Does not make adequate arrangements for follow-up and safety-netting	6%
14: Does not identify or use appropriate psychological or social information to place the problem in context	6%
11: Does not attempt to promote good health at opportune times in the consultation	2%

5: Overview, Inter-component Statistics, and Test Quality Statistics

Overview of pass-rates in AKT and CSA by Protected Characteristics and source of PMQ

The following table summarises data from elsewhere in this report, bringing together crude pass rates of AKT and CSA candidates on their first attempt by 'protected characteristics' (as defined by the Equality Act (2010) and as then collected by the RCGP), also by source of their primary medical qualification. Please recall an earlier warning that many of these variables are confounded.

Candidate Performance 2015-2016 on First Attempt by Protected Characteristics (also whether UK or International Graduate)							
Protected Characteristic &c		**Applied Knowledge Test**			**Cllinical Skills Assessment**		
		Number Sitting	**Number Passing**	**Pass Rate %**	**Number Sitting**	**Number Passing**	**Pass Rate %**
Sex*	Male	1081	840	77.7%	1061	786	74.1%
	Female	1906	1551	81.4%	1963	1692	86.2%
Race**	BME	1195	799	66.9%	1174	778	66.3%
	White	1697	1515	89.3%	1763	1634	92.7%
Race*** (UK Graduates only)	BME	830	629	75.8%	1174	796	67.8%
	White	1623	1466	90.3%	1763	1698	96.3%
PMQ Source	UK Graduate	2539	2168	85.4%	2572	2293	89.2%
	IMG	455	230	50.5%	452	185	40.9%
Disability	Reported****	120	95	79.2%	136	103	75.7%
	None reported	2874	2303	80.1%	2888	2375	82.2%
All Candidates		**2994**	**2398**	**80.1%**	**3024**	**2478**	**81.9%**

* AKT: 7 No information
** AKT: 102 No information   CSA: 87 No information
*** AKT: 86 No information   CSA: 87 No information
**** SLD has highest prevalence

Inter-component Statistics

Currently it is only possible to make comparisons between the performance of candidates between the AKT and the CSA, as the Workplace-Based Assessment data are not readily accessible for comparative analysis. Most candidates make their first attempt at the AKT in ST2 and at the CSA in the middle of ST3.

The accompanying scatterplot is the most recent analysis from these datasets showing the relationship between the AKT and CSA scores of 2099 candidates taking each component for the first time, the AKT in 2014-15 and the CSA in 2015-2016. Overall, the correlation between the two is 0.52 (*cf* last two years 0.52 and 0.53), this suggesting shared variance of 27%. The chart contrasts UK and non-UK graduates' performance: the relationship between the two scores is not greatly dissimilar for the two groups: UKG r = 0.42, r^2 = 0.18; IMG r = .35, r^2 = 0.18.
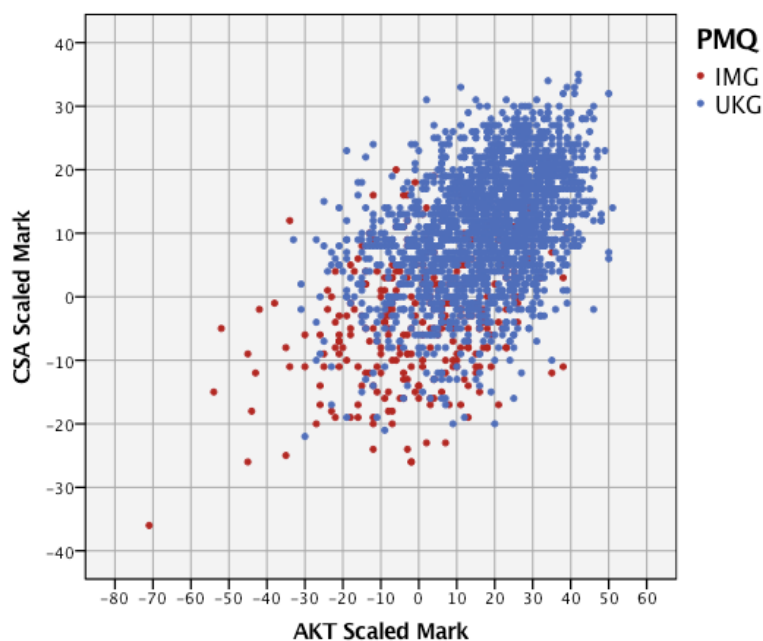
Test Quality Information: AKT

For the diets of the AKT, the reliability, as evidenced by the alpha co-efficient, and the accuracy, indicated by the measurement error estimate, or SEm, is straightforwardly calculated. Occasionally, underperforming items need to be removed from the calculated scores, but this has not taken place in 2015-16 (or at all, recently). Current and recent quality statistics are shown in the accompanying table.

These psychometric quality indicators continue to describe a multi-choice assessment which is performing to an excellent standard.

AKT Diet		No of Items removed	Alpha Coefficient	SEm
2011	October	0	0.91	2.8%
2012	February	0	0.89	2.8%
2012	April	1	0.92	2.9%
2012	October	1	0.89	2.8%
2013	January	0	0.92	2.9%
2013	May	0	0.90	2.9%
2013	October	0	0.90	2.8%
2014	January	0	0.90	2.7%
2014	April	0	0.90	2.9%
2014	October	0	0.90	2.8%
2015	January	0	0.90	2.7%
2015	April	0	0.90	2.8%
2015	October	0	0.89	2.7%
2016	January	0	0.92	2.7%
2016	April	0	0.91	2.8%

Test Quality Information: CSA

Estimating and representing the reliability of a clinical test of the form of the CSA is more difficult using classical psychometric test theory. In a multi-choice test such as the AKT, all the candidates have to respond to all the test items, which are exactly the same for everyone (1000+ candidates/diet). The 'items' (stations or cases) in the CSA are only the same for a day at a time (max 78 candidates), and indeed there are different sets of examiners on each of the three circuits—so there is only exact comparability for 26 candidates. This is of course not at all unusual in a high stakes clinical test, where a variety of imperatives conflict—eg item consistency *vs* test security and fairness. The number taking the CSA moreover varies considerably between diets.

Thus the quality of the CSA is monitored qualitatively as well as quantitatively, the latter at a number of levels of detail with different objectives—but with reliability and fairness always foremost in mind. Qualitative monitoring involves 1¼-hour-long examiner, role-player and case standardization sessions at the beginning of each day, and examiner performance monitoring, quality assurance and training.

Reliability (eg an alpha coefficient) is explored with reference to both days and circuits, towards case, palette and examiner monitoring and development. Daily alpha coefficients—probably something which it is fair to assess, combining circuits across examiners—give a reasonable indication of reliability, but they are also very dependent on the variance in candidate ability. And analyses show that the range and variance in ability of candidate groups can vary greatly day on day, despite administrative measures towards harmonisation: here, ability can be estimated not just from a rather self-

Year	No of Cases (stations) in CSA	Alpha: range across days	Average alpha across days	SEm: range across days	Average SEm across days
2010-2011	13	0.64 – 0.86	0.77	5.1 % - 5.4 %	5.2%
2011-2012	13	0.64 – 0.86	0.77	4.5 % - 5.6 %	5.1%
2012-2013	13	0.64 – 0.87	0.78	4.3 % - 5.4 %	5.0%
2013-2014	13	0.56 – 0.85	0.74	4.4 % - 5.6 %	4.9%
2014-2015	13	0.55 – 0.85	0.72	4.4% - 5.2%	4.8%
2015-2016	13	0.55 – 0.82	0.72	4.4% - 5.4%	4.7%

fulfilling analysis of CSA performance, but by looking at predictive surrogates (eg degree origin) and correlates (eg AKT performance). Finally, the alpha coefficient is estimated on the basis of scores which have relatively limited variance (0-9 on a case, currently), tending to minimise the values. As a result, the test measurement error, indicated by the standard error of measurement, may be a more appropriate overall indicator of quality. That said, current and recent quality statistics – alpha and the SEm – appear in the accompanying table.

6: Longer-term Overview of Pass Rates on AKT and CSA: 2010 - 2016

AKT: Candidates on first attempt by PMQ Source
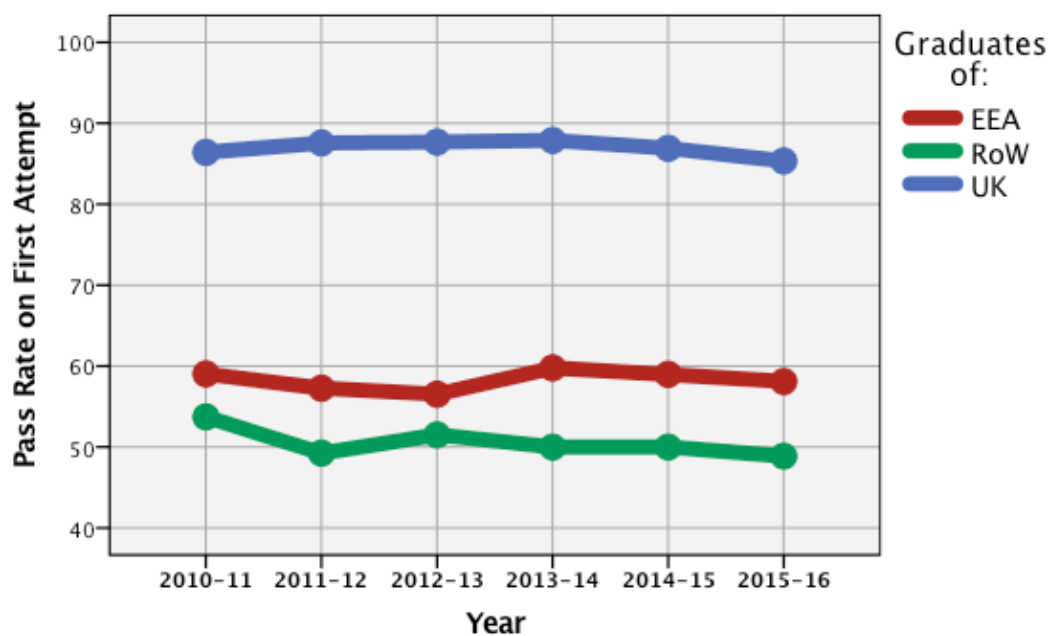
| Year	UK Graduates		EEA Graduates		RoW Candidates	
	N Cands	Pass Rate	N Cands	Pass Rate	N Cands	Pass Rate
2010-11	2134	86.4%	83	59.0%	711	53.7%
2011-12	2180	87.6%	117	57.3%	784	49.2%
2012-13	2539	87.7%	92	56.5%	662	51.5%
2013-14	2543	87.9%	87	59.8%	442	50.0%
2014-15	2582	86.9%	78	59.0%	348	50.0%
2015-16	2539	85.4%	103	56.3%	352	48.9%
All years	14517	87.0%	560	58.2%	3299	50.8%
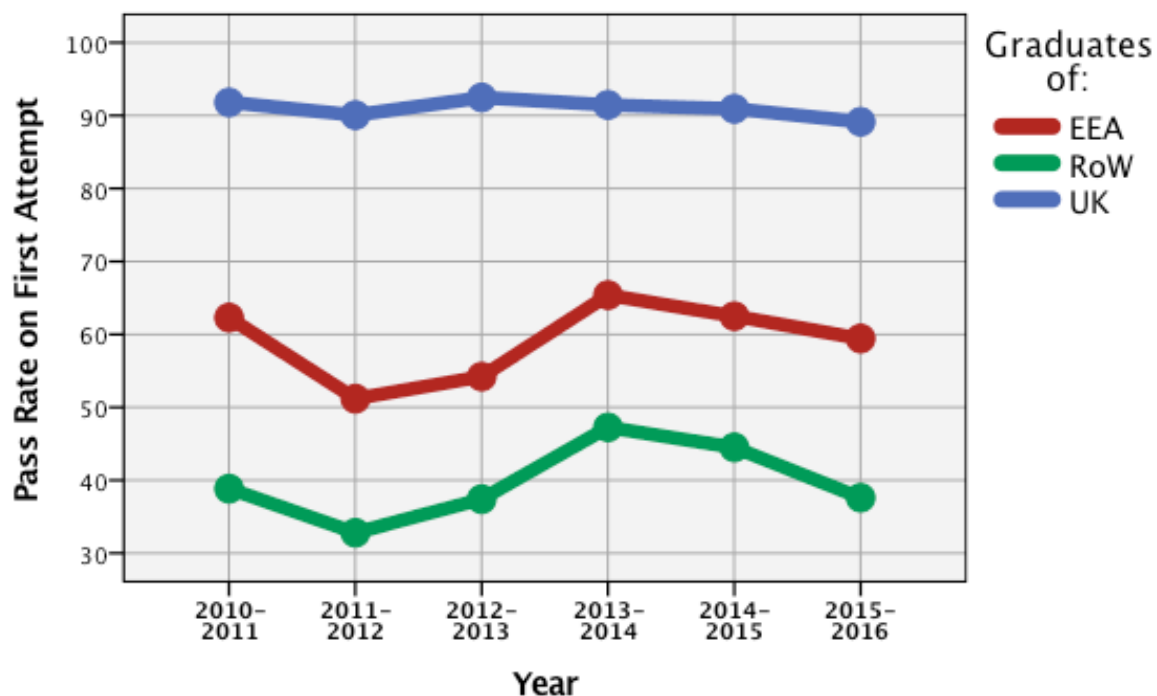
Year	UK Graduates		EEA Graduates		RoW Candidates	
	N Cands	Pass Rate	N Cands	Pass Rate	N Cands	Pass Rate
2010-11	1917	91.8%	61	62.3%	659	38.8%
2011-12	2024	90.1%	84	51.2%	747	32.8%
2012-13	2036	92.5%	107	54.2%	711	37.4%
2013-14	2306	91.5%	78	65.4%	565	47.3%
2014-15	2359	90.9%	88	62.5%	409	44.5%
2015-16	2572	89.2%	71	60.6%	381	37.3%
All years	13214	90.9%	487	58.7%	3474	39.1%
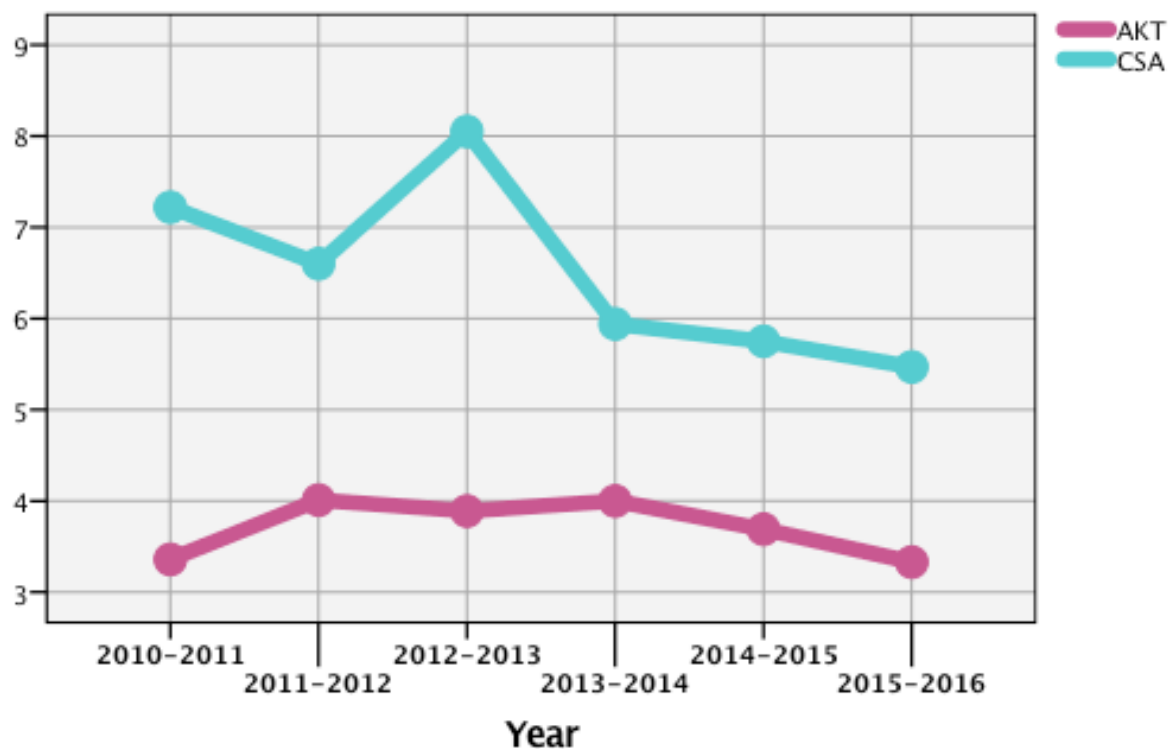
Year	First Attempt Fail Rate IMG: UKG	
	AKT	**CSA**
2010-2011	3.4	7.2
2011-2012	4.0	6.6
2012-2013	3.9	8.0
2013-2014	4.0	5.9
2014-2015	3.7	5.7
2015-2016	3.4	5.5

* * *