
MRCGP: Statistics 2010

Third Report (January-May 2010) on the results of the MRCGP AKT and CSA Assessments

INTRODUCTION

This Report relates to the third year of the new version of the formal MRCGP assessments, ending with those held in May 2010. It presents the statistics which summarise the outcomes of both of the diets of the MRCGP examinations during that period – the Applied Knowledge Test (AKT – Jan and Apr) and the Clinical Skills Assessment (CSA – Feb/Mar and May).

May 2010 marks the end of the first three years of the CSA, introduced in Autumn 2007. During that period, the CSA has used a single standard-setting approach, based on the number of cases passed, or 'n2P'. From August 2010, a new method has been introduced. This is the final report based on the old system. The next report—and future ones—will relate to the new approach, also to assessments held over the academical and not the calendar year, in line with GMC requirements.

The Report first presents an updated summary of both of these assessments and their current standard-setting procedures, to orientate readers who may be unfamiliar with these. Full background information on the MRCGP, the AKT and the CSA (and also the 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 give information on the candidature and the attempts at the test, for each of them:

- candidates overall: the origin of their primary medical degree
- candidates by training deanery: their gender and ethnicity, and whether a UK graduate or not
- overall results; results by diet; results by attempt at the component; results by training year (AKT)
- results by source of primary medical qualification (UK, elsewhere)
- results by gender, and gender within primary medical qualification source
- results by ethnicity, and ethnicity within primary medical qualification source
- results by training deanery
- results by medical school (UK) or country
- AKT mean sub-component scores, by candidate year of training
- CSA feedback statements on failed cases: aggregate summary

This report is descriptive, only, and neither interpretative nor discursive. Data – and, where appropriate, statistical significances – are presented without psychometric comment other than that which follows and at the end of the report.

Demographic variables have until now been mostly self-coded by the candidates when registering as AiTs or for an examination. Upon inspection, it transpired that this led to substantial inaccuracies in respect of matters such as 'medical school/country of primary medical qualification' or even sex. All variables as are held on it have therefore been checked with the GMC's Register (as at January 2011). Candidates' attempt at the exams, also often mis-reported, has been recalculated from the historical database. There will of course be a few inaccuracies left for which apologies are proffered.

NB Caution regarding interactions between variables! There are many significant differences between sub-groups on their performance on both the tests reported, for example by gender and country of primary medical training. Such variables may well interact with others. The relevant results should thus be interpreted conservatively.

March 2011

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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, the College and the GMC (*vice* PMETB) of the competence of exiting trainee General Practitioners (GPs) across a broad and carefully-defined three year (occasionally, four) 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-accreditation).

The MRCGP's three assessment components are the following:

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

No compensation is permitted between the CSA and the AKT (or workplace-based)—each must be separately passed.

The curriculum, the training and the assessments are based on practice in the UK National Health Service. Entry to the formal assessments is only permissible to doctors undergoing GP training in the UK health care system. Accordingly, no external candidates take these, as happens in certain other Royal Colleges. (The College has other arrangements to support GPs practising in other countries and who seek affiliation with it or Membership of it through the 'MRCGP [International]', see the website.)

Please 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.

The Applied Knowledge Test (AKT)

The multi-choice **Applied Knowledge Test** is a 3-hr 200-item computer-delivered and marked assessment which has been able to be taken in any of the three years of training (Year 1 = ST1; Year 2 = ST2; Year 3 = ST3), although for candidates in the future these rules are being changed. 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 three formats: single best answer (including images and graphics), extended matching questions and completion of algorithms. 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 neither deducted for incorrect answers nor for failure to answer.

The standard for the AKT is set for the test 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 and representatives of outside bodies with a stake in the outcome of the examination 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' (JPS) is accordingly determined for the test as a whole, and a statistical review may 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 at one SEM (Standard Error of Measurement) above the 'JPS'. The accuracy of the AKT is 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, the only variable which may be simply and validly compared across diets is the 'result' (pass/fail).

The Clinical Skills Assessment (CSA)

The **Clinical Skills Assessment** is an OSCE-style assessment using simulated patients which may be taken only in the final year of training (Year 3 = ST3). During the period covered by this report, the CSA was 13 cases long (12 + 1 pilot case), and was delivered in a purpose-built College assessment centre (in Croydon, South London). Three circuits can run simultaneously on the three floors of the centre.

A case is depicted by a role player, and candidate performance assessed by an examiner who accompanies the roleplayer for the day. Each case lasts 10 minutes (plus two minutes marking/changeover time). Candidates have their own 'consulting room', and the role players and assessors move around the circuit. Of the 13 cases, 12 are assessed and the other is presently used to pilot new cases.

Cases, written by dedicated writers who are practising GPs, present typical clinical scenarios that a UK GP will encounter. 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.

Each case is marked on three domains and with an overall global judgement. The domains are: Data Gathering, Examination and Clinical Skills; Clinical Management Skills; Interpersonal Skills. Each domain score and global judgement is marked as: *Clear Pass – Marginal Pass – Marginal Fail – Clear Fail*. (Also, to assist in standard-setting developments but not yet used towards test outcomes, the assessors are also asked to give a confidence score on their global judgement.) The domain scores inform the assessor judgement for the global score but are not used in any further summative manner.

The critical pass/fail determination on the CSA as a whole is as a result of how many cases are passed (out of 12), whether 'marginally' or 'clearly' being immaterial. Thus the effective judgement for each case is the *global score* as a *pass or fail* (whether clear or marginal is operationally irrelevant). The domain scores are used for quality assurance of the assessors and cases.

The overall standard of the assessment is set by means of ensuring both that the cases are at an appropriate level of difficulty 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 support mechanisms are in place: calibration exercises at the beginning of each day of the CSA; initial and ongoing training of examiners; and an annual two-day examiners workshop.

The passmark—number of cases to be passed out of 12, known as 'n2P'—is set by an Adjudication Committee comprised of various stakeholders, following each diet of the assessment: in 2010, it was *eight*. Hofstee-style data-collection from examiners provides the committee with collective perceptions about overall candidate standards.

The reliability of the CSA is estimated by calculating Cronbach's *alpha* using the *global scores* (0-3) for each case. Because of daily case and examiner differences, *alpha* must be estimated only *per diem*, 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 'result' (pass/fail at n2P = 8) and 'cases passed' (out of 12).

2: Notes on the Tables and Statistics

General Notes

Tables are accompanied where possible by thumbnail charts, to assist those who prefer visual rather than numerical summaries of data. Where space prevents the charts being of adequate size to read, (for example) the axis scales, the relevant table should be inspected for this information. 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

Note regarding the Interpretation of the AKT statistics

Except in the Summary of Demographic information, the statistics aggregate all 1,965 candidates' 2,138 attempts in this period of 2010 at the AKT. Some candidates appear twice (173). Data have been presented in this way (for all candidates, rather than first time takers, only) for consistency, as this is the form requested by the GMC in respect of other reports.

Particularly observant readers may notice that figures in this report do not always concur precisely with those given in various reports of AKT examinations in 2010 on the College website. The latter normally show totals and pass rates for *all* AKT candidates, including GP 'returners' and those completing the 'old' MRCGP and summative assessment. The figures in this report refer only to examination candidates eligible for 'new' MRCGP.

Separate tables could be presented for first timers only, but have not been, for brevity.

Note regarding the interpretation of the CSA statistics

Two databases have been constructed for the 2010 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 only to provide the information on 'feedback statements' in the final table of the report.

Except in the Summary of Demographic information which reports on the individuals (n=2150), the statistics aggregate all 2,420 attempts at the CSA in this period of 2010. Some candidates (270) appear twice in these tables. Data have been presented in this way (for all candidates, rather than first time takers, only), for the same reason as for the AKT.

Separate tables could again have been presented for first timers only, but have not been in an attempt towards some brevity. The College will provide further information on request, as appropriate, to stakeholder bodies such as Deaneries.

Data Inconsistencies: Caution

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

- Most of the candidates' background data is self-reported on registration for each assessment. It is thus subject to entry error, though major data fields have been checked by reference to the GMC Register (version at January 2011)
- For the same reason, data are occasionally missing
- 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
- Updates to the databases, internally in the College and from the individual Deaneries, are inevitably intermittent

However, the College would appreciate learning of any serious apparent errors or omissions in the data reported. It would also be pleased to receive suggestions as to additional or alternative data which might be helpful to Deaneries and the training establishment. Contact the compiler at rew5@cam.ac.uk

3: AKT Statistics

Summary of Demographic Information on AKT Candidates

Note that 1,965 candidates made a total of 2,138 attempts at the AKT during January to May 2010. The tables on this page show the source of their medical degree and then, overleaf, the background demographic characteristics of the 1,965, by training Deanery. Other tables report on the 2,138 attempts.

Graduates of UK Medical Schools		
	N	%
Aberdeen	54	4.1
Belfast	35	2.7
Birmingham	72	5.5
Bristol	34	2.6
Cambridge	24	1.8
Dundee	41	3.1
Edinburgh	35	2.7
Glasgow	64	4.9
Leeds	56	4.3
Leicester	39	3.0
Liverpool	73	5.6
London (Barts & London)	64	4.9
London (school unknown)	1	.1
London Imperial College	59	4.5
London King's College	80	6.1
London St George's	46	3.5
London University College	96	7.3
Manchester	110	8.4
Newcastle-upon-Tyne	65	5.0
Nottingham	55	4.2
Oxford	15	1.1
Sheffield	61	4.7
Southampton	53	4.0
Wales	55	4.2
Warwick	23	1.8
Total	1310	100.0

Summary	N	%
UK Graduates	1310	66.7
Non-UK Graduates	655	33.3
Total	1965	100.0

Graduates of Other Countries		
	N	%
Algeria	3	.5
Armenia	1	.2
Australia	4	.6
Austria	1	.2
Bangladesh	11	1.7
Belarus	3	.5
Bulgaria	1	.2
China	2	.3
Czech Republic	21	3.2
Egypt	6	.9
Germany	3	.5
Ghana	2	.3
Greece	1	.2
Grenada	2	.3
Hungary	1	.2
India	260	39.7
Iran, Islamic Republic Of	5	.8
Iraq	25	3.8
Ireland	7	1.1
Italy	1	.2
Jamaica	7	1.1
Kenya	2	.3
Latvia	1	.2
Lebanon	1	.2
Lithuania	1	.2
Malaysia	1	.2
Myanmar	4	.6
Nepal	5	.8
Netherlands	2	.3
New Zealand	2	.3
Nicaragua	1	.2
Nigeria	56	8.5
Pakistan	132	20.2
Philippines	1	.2
Poland	10	1.5
Romania	3	.5
Russian Federation	13	2.0
Saint Kitts And Nevis	2	.3
Serbia	1	.2
South Africa	9	1.4
Spain	1	.2
Sri Lanka	16	2.4
Sudan	3	.5
Syrian Arab Republic	2	.3
Tanzania, United Republic Of	1	.2
Turkey	1	.2
Uganda	1	.2
Ukraine	8	1.2
United Arab Emirates	2	.3
Uzbekistan	1	.2
Zambia	1	.2
Zimbabwe	4	.6
Total	655	100.0

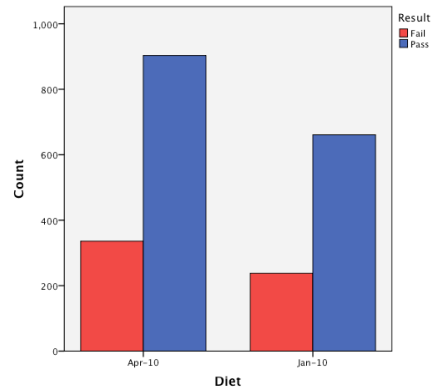
Demographic Information on AKT Candidates by Training Deanery

Training Deanery	Candidate Gender		Candidate Ethnic Group						UK or non-UK Graduate		Total
	Male	Female	White	S Asian	Black	Chinese	Other/mixed ethnicity	Not known	UK Graduate	non-UK Graduate	
Armed Forces (Defence)	17 63.0%	10 37.0%	23 85.2%	2 7.4%	0 .0%	0 .0%	2 7.4%	0 .0%	26 96.3%	1 3.7%	27 100.0%
East Midlands	50 44.2%	63 55.8%	31 27.4%	65 57.5%	9 8.0%	3 2.7%	4 3.5%	1 .9%	70 61.9%	43 38.1%	113 100.0%
East of England	77 48.1%	83 51.9%	47 29.4%	94 58.8%	9 5.6%	3 1.9%	6 3.8%	1 .6%	71 44.4%	89 55.6%	160 100.0%
East Scotland	9 50.0%	9 50.0%	13 72.2%	4 22.2%	0 .0%	0 .0%	1 5.6%	0 .0%	15 83.3%	3 16.7%	18 100.0%
Kent, Surrey, Sussex	70 50.4%	69 49.6%	46 33.1%	69 49.6%	16 11.5%	3 2.2%	5 3.6%	0 .0%	77 55.4%	62 44.6%	139 100.0%
London	75 30.9%	168 69.1%	83 34.2%	110 45.3%	16 6.6%	7 2.9%	23 9.5%	4 1.6%	192 79.0%	51 21.0%	243 100.0%
Mersey	33 38.4%	53 61.6%	49 57.0%	30 34.9%	4 4.7%	0 .0%	3 3.5%	0 .0%	58 67.4%	28 32.6%	86 100.0%
North Scotland	29 58.0%	21 42.0%	35 70.0%	13 26.0%	2 4.0%	0 .0%	0 .0%	0 .0%	36 72.0%	14 28.0%	50 100.0%
North Western	87 51.5%	82 48.5%	54 32.0%	93 55.0%	8 4.7%	3 1.8%	10 5.9%	1 .6%	106 62.7%	63 37.3%	169 100.0%
Northern	39 37.5%	65 62.5%	61 58.7%	32 30.8%	3 2.9%	5 4.8%	3 2.9%	0 .0%	69 66.3%	35 33.7%	104 100.0%
Northern Ireland	12 33.3%	24 66.7%	34 94.4%	1 2.8%	0 .0%	0 .0%	0 .0%	1 2.8%	34 94.4%	2 5.6%	36 100.0%
Oxford	21 35.6%	38 64.4%	23 39.0%	31 52.5%	4 6.8%	0 .0%	1 1.7%	0 .0%	40 67.8%	19 32.2%	59 100.0%
Severn	30 40.0%	45 60.0%	49 65.3%	20 26.7%	1 1.3%	1 1.3%	3 4.0%	1 1.3%	55 73.3%	20 26.7%	75 100.0%
South East Scotland	16 34.8%	30 65.2%	34 73.9%	9 19.6%	1 2.2%	1 2.2%	1 2.2%	0 .0%	37 80.4%	9 19.6%	46 100.0%
South West Peninsula	21 46.7%	24 53.3%	32 71.1%	9 20.0%	0 .0%	1 2.2%	2 4.4%	1 2.2%	40 88.9%	5 11.1%	45 100.0%
Wales	29 46.0%	34 54.0%	36 57.1%	24 38.1%	2 3.2%	0 .0%	0 .0%	1 1.6%	45 71.4%	18 28.6%	63 100.0%
Wessex	26 36.1%	46 63.9%	48 66.7%	16 22.2%	1 1.4%	1 1.4%	6 8.3%	0 .0%	55 76.4%	17 23.6%	72 100.0%
West Midlands	132 56.4%	102 43.6%	60 25.6%	147 62.8%	10 4.3%	3 1.3%	13 5.6%	1 .4%	117 50.0%	117 50.0%	234 100.0%
West Scotland	29 33.0%	59 67.0%	59 67.0%	23 26.1%	3 3.4%	1 1.1%	2 2.3%	0 .0%	73 83.0%	15 17.0%	88 100.0%
Yorkshire & The Humber	60 43.5%	78 56.5%	70 50.7%	55 39.9%	1 .7%	1 .7%	11 8.0%	0 .0%	94 68.1%	44 31.9%	138 100.0%
Total	862 43.9%	1103 56.1%	887 45.1%	847 43.1%	90 4.6%	33 1.7%	96 4.9%	12 .6%	1310 66.7%	655 33.3%	1965 100.0%

a) AKT Result by AKT DIET

df = 1, $X^2 = .74$, NS

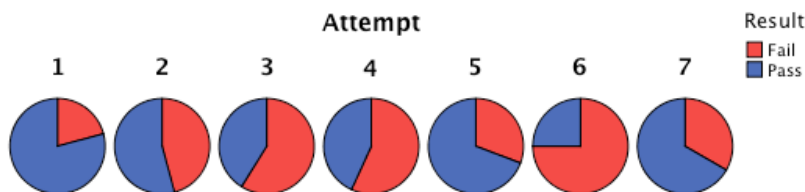
		Result		Total
		Fail	Pass	
Diet	Apr-10	336 27.1%	903 72.9%	1239 100.0%
	Jan-10	238 26.5%	661 73.5%	899 100.0%
Total		574 26.8%	1564 73.2%	2138 100.0%



b) AKT Result by ATTEMPT at the AKT

df = 6, $X^2 = 162.8$, $p < .0001$

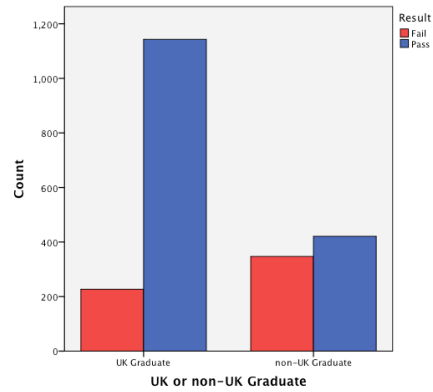
		Result		Total
		Fail	Pass	
Attempt	1	352 20.8%	1340 79.2%	1692 100.0%
	2	126 45.8%	149 54.2%	275 100.0%
	3	63 58.9%	44 41.1%	107 100.0%
	4	25 56.8%	19 43.2%	44 100.0%
	5	4 30.8%	9 69.2%	13 100.0%
	6	3 75.0%	1 25.0%	4 100.0%
	7	1 33.3%	2 66.7%	3 100.0%
Total		574 26.8%	1564 73.2%	2138 100.0%



c) AKT Result by SOURCE OF PRIMARY MEDICAL QUALIFICATION – “PMQ” (UK/Other)

df = 1, $X^2 = 205.2$, $p < .0001$

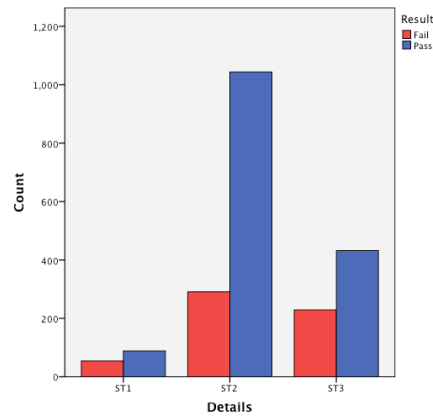
	Result		Total
	Fail	Pass	
UK Graduate	227 16.6%	1143 83.4%	1370 100.0%
non-UK Graduate	347 45.2%	421 54.8%	768 100.0%
Total	574 26.8%	1564 73.2%	2138 100.0%



d) AKT Result by YEAR in the TRAINING PROGRAMME

df = 2, $X^2 = 46.8$, $p < .0001$

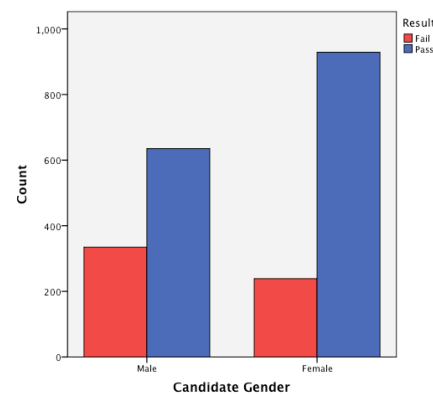
Year		Result		Total
		Fail	Pass	
ST1		54 38.0%	88 62.0%	142 100.0%
	ST2	291 21.8%	1044 78.2%	1335 100.0%
ST3		229 34.6%	432 65.4%	661 100.0%
	Total	574 26.8%	1564 73.2%	2138 100.0%



e) AKT Result by CANDIDATE GENDER

df = 1, $X^2 = 54.4$, $p < .0001$

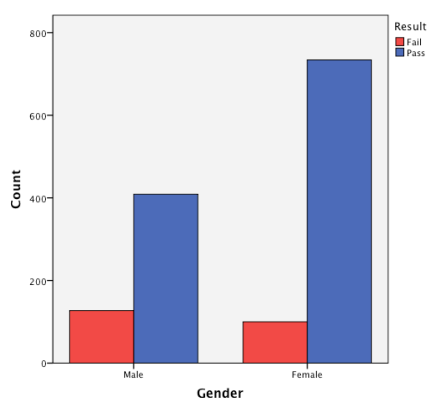
Gender		Result		Total
		Fail	Pass	
Male		335 34.5%	635 65.5%	970 100.0%
	Female	239 20.5%	929 79.5%	1168 100.0%
Total		574 26.8%	1564 73.2%	2138 100.0%



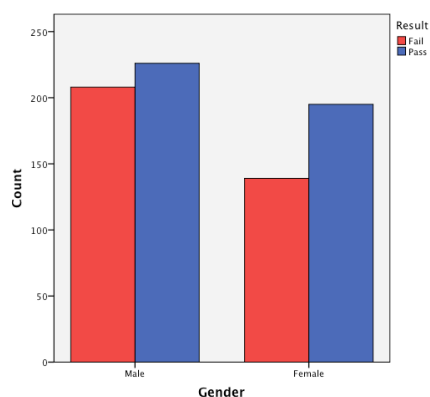
f) AKT Result by CANDIDATE GENDER *within* SOURCE OF PMQ

Result by Gender within Source of PMQ

UK or non-UK Graduate			Result		Total
			Fail	Pass	
UK Graduate	Candidate Gender	Male	127 23.7%	409 76.3%	536 100.0%
		Female	100 12.0%	734 88.0%	834 100.0%
	Total		227 16.6%	1143 83.4%	1370 100.0%
	Total		227 45.2%	1143 54.8%	1370 100.0%
non-UK Graduate	Candidate Gender	Male	208 47.9%	226 52.1%	434 100.0%
		Female	139 41.6%	195 58.4%	334 100.0%
	Total		347 45.2%	421 54.8%	768 100.0%
	Total		347 45.2%	421 54.8%	768 100.0%



UK Graduates
df = 1, $X^2 = 32.3$, $p < .0001$



Non-UK Graduates
df = 1, $X^2 = 3.0$, $p < .05$

g) Candidates with Disabilities: AKT Results

Four disabled candidates appear twice in the tables, all with dyslexia. Two passed on the second attempt, two failed.

AKT Candidates with Disabilities					
Disability	Attempt				Total
	1	2	3	4	
Dyslexia	22	5	2	0	29
Hearing impaired	1	0	0	0	1
More than one disability	1	0	0	0	1
Other disability	3	0	0	0	3
Physical disabilities	3	0	1	1	5

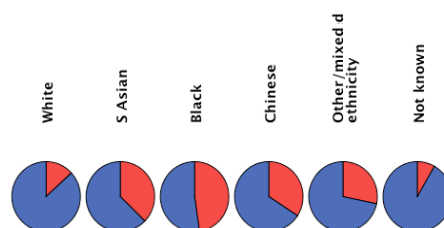
AKT Candidates with Disabilities: Passes					
Disability	Attempt				Total
	1	2	3	4	
Dyslexia	16	2	1	0	19
Hearing impaired	0	0	0	0	0
More than one disability	1	0	0	0	1
Other disability	3	0	0	0	3
Physical disabilities	3	0	1	1	5

h) AKT Result by CLASSIFIED CANDIDATE ETHNICITY (self-reported)

df = 5, $\chi^2 = 168.1$, $p < .0001$

Result by Ethnic Group

		Result		Total
		Fail	Pass	
Ethnic Group	White	121	796	917
		13.2%	86.8%	100.0%
	S Asian	357	599	956
		37.3%	62.7%	100.0%
	Black	52	57	109
		47.7%	52.3%	100.0%
	Chinese	13	25	38
		34.2%	65.8%	100.0%
Other/mixed ethnicity	30	76	106	
	28.3%	71.7%	100.0%	
Not known	1	11	12	
	8.3%	91.7%	100.0%	
Total		574	1564	2138
		26.8%	73.2%	100.0%



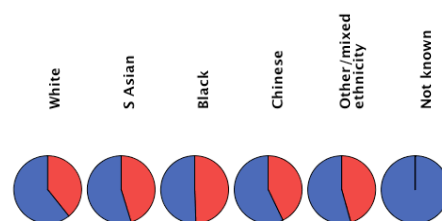
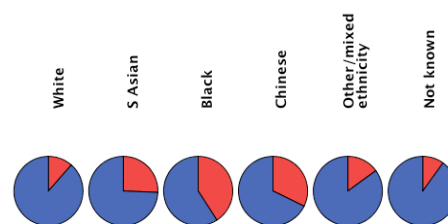
i) AKT Result by CLASSIFIED CANDIDATE ETHNICITY *within* SOURCE OF PMQ

UK Graduates: df = 5, $\chi^2 = 54.4$, $p < .0001$

Non-UK Graduates: df = 5, $\chi^2 = 3.1$, NS

Result by Ethnic Group by Source of PMQ

		Result		Total
		Fail	Pass	
UK Graduate	White	99	762	861
		11.5%	88.5%	100.0%
	S Asian	99	287	386
		25.6%	74.4%	100.0%
	Black	9	13	22
		40.9%	59.1%	100.0%
	Chinese	10	21	31
		32.3%	67.7%	100.0%
Other/mixed ethnicity	9	51	60	
	15.0%	85.0%	100.0%	
Not known	1	9	10	
	10.0%	90.0%	100.0%	
Total		227	1143	1370
		16.6%	83.4%	100.0%
non-UK Graduate	White	22	34	56
		39.3%	60.7%	100.0%
	S Asian	258	312	570
		45.3%	54.7%	100.0%
	Black	43	44	87
		49.4%	50.6%	100.0%
	Chinese	3	4	7
		42.9%	57.1%	100.0%
Other/mixed ethnicity	21	25	46	
	45.7%	54.3%	100.0%	
Not known	0	2	2	
	.0%	100.0%	100.0%	
Total		347	421	768
		45.2%	54.8%	100.0%



j) AKT Result by TRAINING DEANERY

Pass-fail: $df = 19$, $X^2 = 53.4$, $p < .0001$

AKT Outcomes by Deanery									
Deanery	AKT % Score - Descriptive Statistics				AKT Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Armed Forces (Defence)	67	90	77.64	6.22	1	3.6%	27	96.4%	28
East Midlands	51	94	73.26	8.17	34	27.4%	90	72.6%	124
East of England	47	95	71.93	8.61	62	34.4%	118	65.6%	180
East Scotland	61	87	73.97	8.01	5	26.3%	14	73.7%	19
Kent, Surrey, Sussex	44	90	72.15	8.33	46	30.3%	106	69.7%	152
London	50	95	74.61	8.47	66	24.8%	200	75.2%	266
Mersey	50	91	71.88	9.70	34	36.6%	59	63.4%	93
North Scotland	49	88	74.18	8.46	12	22.6%	41	77.4%	53
North Western	48	91	72.45	7.89	55	29.9%	129	70.1%	184
Northern	57	95	75.56	7.72	20	18.2%	90	81.8%	110
Northern Ireland	66	88	78.47	6.11	3	8.1%	34	91.9%	37
Oxford	47	90	69.17	9.19	29	42.0%	40	58.0%	69
Severn	56	95	76.42	8.42	18	21.4%	66	78.6%	84
South East Scotland	54	90	76.39	7.22	6	12.8%	41	87.2%	47
South West Peninsula	55	93	76.30	8.70	7	15.2%	39	84.8%	46
Wales	60	90	73.66	7.79	22	31.4%	48	68.6%	70
Wessex	62	91	75.51	7.18	15	19.7%	61	80.3%	76
West Midlands	42	94	72.95	9.32	76	29.7%	180	70.3%	256
West Scotland	52	91	75.26	8.27	21	22.1%	74	77.9%	95
Yorkshire & The Humber	46	92	73.28	8.52	42	28.2%	107	71.8%	149
Total	42	95	73.67	8.56	574	26.8%	1564	73.2%	2138

k) AKT Result by SOURCE OF PRIMARY MEDICAL QUALIFICATION, subdivided

1 FOR UK GRADUATES, BY MEDICAL SCHOOL

Pass-Fail: df = 24, $\chi^2 = 73.6$, $p < .0001$

AKT Outcomes by UK Medical School									
UK Medical School	AKT % Score - Descriptive Statistics				AKT Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Aberdeen	61	89	77	7.2	7	13%	48	87%	55
Belfast	56	88	76	7.3	6	16%	31	84%	37
Birmingham	49	94	78	8.3	8	11%	65	89%	73
Bristol	65	95	80	7.0	1	3%	34	97%	35
Cambridge	65	93	83	5.8	1	4%	23	96%	24
Dundee	49	87	73	7.4	8	19%	34	81%	42
Edinburgh	59	90	79	6.5	2	6%	34	94%	36
Glasgow	61	91	76	7.5	15	22%	53	78%	68
Leeds	65	93	76	5.8	6	11%	51	90%	57
Leicester	59	88	75	7.2	9	21%	34	79%	43
Liverpool	48	90	74	8.6	18	24%	57	76%	75
London (Barts & London)	55	88	72	7.1	21	29%	52	71%	73
London (school unknown)	61	61	61	.	1	100%	0	%	1
London Imperial College	66	95	77	6.6	5	8%	55	92%	60
London King's College	56	93	75	8.1	20	23%	66	77%	86
London St George's	58	91	75	7.6	12	24%	38	76%	50
London University College	57	95	77	7.4	10	10%	89	90%	99
Manchester	54	91	75	7.3	20	18%	94	83%	114
Newcastle-upon-Tyne	61	95	79	7.0	5	8%	61	92%	66
Nottingham	64	94	78	7.4	5	9%	51	91%	56
Oxford	72	91	84	5.7	0	%	15	100%	15
Sheffield	51	89	73	8.5	21	31%	46	69%	67
Southampton	52	87	74	7.0	14	24%	45	76%	59
Wales	64	90	79	6.9	4	7%	51	93%	55
Warwick	64	93	75	8.1	8	33%	16	67%	24
Total	48	95	76	7.7	227	17%	1143	83.4%	1370

2 FOR NON-UK GRADUATES, BY COUNTRY OF PRIMARY MEDICAL QUALIFICATION
(analytical statistics not calculated in the light of small cell sizes)

AKT Outcomes by non-UK Country of Primary Medical Qualification: Table 1 of 2									
Country A-M	AKT % Score - Descriptive Statistics				AKT Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Algeria	53	72	63	9.4	2	67%	1	33%	3
Armenia	68	68	68	.	1	100%	0	%	1
Australia	64	80	75	7.7	1	25%	3	75%	4
Austria	63	74	69	7.8	1	50%	1	50%	2
Bangladesh	47	78	65	7.9	8	62%	5	39%	13
Belarus	66	84	74	8.8	1	33%	2	67%	3
Bulgaria	51	51	51	.	1	100%	0	%	1
China	65	84	74	9.3	1	33%	2	67%	3
Czech Republic	42	73	62	8.1	25	83%	5	17%	30
Egypt	60	78	67	6.3	5	63%	3	38%	8
Germany	74	82	77	4.6	0	%	3	100%	3
Ghana	68	76	72	6.0	0	%	2	100%	2
Greece	88	88	88	.	0	%	1	100%	1
Grenada	59	71	63	6.4	2	67%	1	33%	3
Hungary	64	73	68	6.7	1	50%	1	50%	2
India	44	91	71	7.7	105	37%	181	63%	286
Iran, Islamic Republic Of	65	75	71	5.3	2	40%	3	60%	5
Iraq	50	87	68	8.8	14	48%	15	52%	29
Ireland	56	80	70	8.1	2	25%	6	75%	8
Italy	73	73	73	.	0	%	1	100%	1
Jamaica	61	85	68	6.7	6	60%	4	40%	10
Kenya	72	74	73	1.4	0	%	2	100%	2
Latvia	62	62	62	.	1	100%	0	%	1
Lebanon	76	76	76	.	0	%	1	100%	1
Lithuania	76	76	76	.	0	%	1	100%	1
Malaysia	66	70	68	3.2	1	50%	1	50%	2
Myanmar	74	81	77	3.2	0	%	4	100%	4

(contd.)

AKT Outcomes by non-UK Country of Primary Medical Qualification: Table 2 of 2									
Country N-Z	AKT % Score - Descriptive Statistics				AKT Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Nepal	53	80	65	9.3	3	50%	3	50%	6
Netherlands	72	73	72	.7	0	%	2	100%	2
New Zealand	73	78	75	3.9	0	%	2	100%	2
Nicaragua	69	69	69	.	0	%	1	100%	1
Nigeria	52	83	68	6.6	37	52%	34	48%	71
Pakistan	46	91	68	8.0	86	53%	77	47%	163
Philippines	58	58	58	.	1	100%	0	%	1
Poland	65	83	74	6.7	4	40%	6	60%	10
Romania	48	77	62	15.9	2	50%	2	50%	4
Russian Federation	47	85	65	8.8	12	71%	5	29%	17
Saint Kitts And Nevis	58	72	64	5.9	3	75%	1	25%	4
Serbia	64	64	64	.	1	100%	0	%	1
South Africa	67	86	79	6.9	1	11%	8	89%	9
Spain	77	77	77	.	0	%	1	100%	1
Sri Lanka	61	86	72	7.2	7	37%	12	63%	19
Sudan	72	86	77	7.6	0	%	3	100%	3
Syrian Arab Republic	64	78	71	7.0	1	33%	2	67%	3
Tanzania, United Republic Of	66	71	68	3.9	1	50%	1	50%	2
Turkey	83	83	83	.	0	%	1	100%	1
Uganda	69	69	69	.	0	%	1	100%	1
Ukraine	54	74	65	5.7	6	67%	3	33%	9
United Arab Emirates	73	76	74	2.1	0	%	2	100%	2
Uzbekistan	64	73	68	6.7	1	50%	1	50%	2
Zambia	71	71	71	.	0	%	1	100%	1
Zimbabwe	69	78	73	4.2	1	25%	3	75%	4
Total	42	91	69	8.1	347	45%	421	55%	768

I) AKT Total and sub-Component SCORES, by YEAR IN THE TRAINING PROGRAMME

Note: Interpret cautiously, as this is an aggregation of scores across diets which have slightly different distributions and overall pass-marks. The tables are shown to give a general impression of score differences between the components, and by training period.

Distribution of Scores (%), by Training Year						
Training Year	N	Minimum	Maximum	Mean	Std. Deviation	
ST ₁	Clinical Medicine	142	47	96	72.6	9.63
	Evidence Interpretation	142	25	100	68.8	15.48
	Organisational Questions	142	35	90	66.2	12.84
	Total Score	142	48	95	71.6	9.44
ST ₂	Clinical Medicine	1335	45	95	76.1	8.11
	Evidence Interpretation	1335	15	100	70.9	15.10
	Organisational Questions	1335	25	100	69.7	11.96
	Total Score	1335	42	95	75.0	8.06
ST ₃	Clinical Medicine	661	41	97	72.6	9.04
	Evidence Interpretation	661	15	100	67.8	14.93
	Organisational Questions	661	25	95	66.1	12.44
	Total Score	661	42	95	71.5	8.81

4: CSA Statistics

Summary of Demographic Information on CSA Candidates

Note that 2150 candidates made a total of 2420 attempts at the CSA during this part of 2010. The tables below show the origin of the 2150 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 next page, the background demographic characteristics of the 2150 are shown, by training Deanery. Other tables report on the 2420 attempts.

Graduates of UK Medical Schools		
	N	%
Aberdeen	58	3.7
Belfast	61	3.9
Birmingham	91	5.8
Bristol	53	3.4
Cambridge	14	.9
Dundee	47	3.0
Edinburgh	48	3.0
Glasgow	72	4.6
Leeds	73	4.6
Leicester	46	2.9
Liverpool	69	4.4
London (Barts & London)	83	5.3
London (school unknown)	2	.1
London Imperial College	85	5.4
London King's College	81	5.1
London St George's	60	3.8
London University College	92	5.8
Manchester	136	8.6
Newcastle-upon-Tyne	45	2.9
Nottingham	73	4.6
Oxford	18	1.1
Sheffield	73	4.6
Southampton	71	4.5
Wales	98	6.2
Warwick	29	1.8
Total	1578	100.0

Summary	N	%
UK Graduates	1578	73.4
Non-UK Graduates	572	26.6
Total	2150	100.0

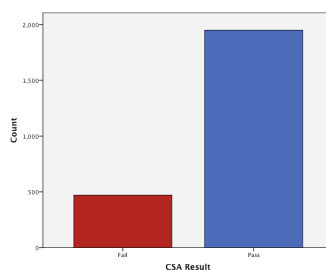
Graduates of Other Countries		
	N	%
Albania	1	.2
Algeria	1	.2
Australia	2	.3
Bangladesh	10	1.7
Bulgaria	1	.2
China	1	.2
Colombia	4	.7
Czech Republic	22	3.8
Denmark	1	.2
Egypt	5	.9
France	1	.2
Germany	5	.9
Ghana	3	.5
Greece	1	.2
Grenada	2	.3
Hungary	3	.5
India	250	43.7
Iran, Islamic Republic Of	7	1.2
Iraq	21	3.7
Ireland	8	1.4
Israel	1	.2
Italy	1	.2
Jamaica	6	1.0
Kenya	1	.2
Latvia	1	.2
Lithuania	1	.2
Myanmar	2	.3
Nepal	5	.9
Netherlands	2	.3
New Zealand	2	.3
Nigeria	40	7.0
Pakistan	89	15.6
Papua New Guinea	1	.2
Philippines	2	.3
Poland	2	.3
Portugal	1	.2
Romania	8	1.4
Russian Federation	11	1.9
Sierra Leone	1	.2
South Africa	15	2.6
Spain	2	.3
Sri Lanka	11	1.9
Sudan	1	.2
Syrian Arab Republic	1	.2
Tanzania, United Republic Of	1	.2
Tunisia	2	.3
Turkey	2	.3
Uganda	1	.2
Ukraine	4	.7
United Arab Emirates	1	.2
Venezuela	1	.2
Zimbabwe	4	.7
Total	572	100.0

Demographic Information on CSA Candidates by Training Deanery

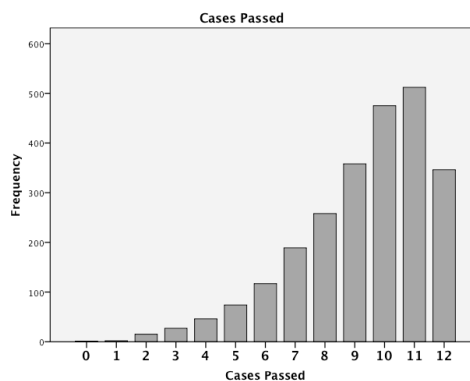
Training Deanery	Candidate Gender		Candidate Ethnic Group						UK or non-UK Graduate		Total
	Male	Female	White	S Asian	Black	Chinese	Other/mixed ethnicity	Not known	UK Graduate	non-UK Graduate	
Armed Forces (Defence)	16 69.6%	7 30.4%	17 73.9%	2 8.7%	1 4.3%	0 .0%	2 8.7%	1 4.3%	22 95.7%	1 4.3%	23 100.0%
East Midlands	65 51.2%	62 48.8%	63 49.6%	50 39.4%	5 3.9%	4 3.1%	5 3.9%	0 .0%	100 78.7%	27 21.3%	127 100.0%
East of England	66 50.0%	66 50.0%	38 28.8%	76 57.6%	9 6.8%	1 .8%	8 6.1%	0 .0%	56 42.4%	76 57.6%	132 100.0%
East Scotland	8 38.1%	13 61.9%	15 71.4%	6 28.6%	0 .0%	0 .0%	0 .0%	0 .0%	15 71.4%	6 28.6%	21 100.0%
Kent, Surrey, Sussex	75 40.8%	109 59.2%	80 43.5%	84 45.7%	11 6.0%	1 .5%	7 3.8%	1 .5%	135 73.4%	49 26.6%	184 100.0%
London	113 36.5%	197 63.5%	101 32.6%	149 48.1%	17 5.5%	8 2.6%	32 10.3%	3 1.0%	255 82.3%	55 17.7%	310 100.0%
Mersey	26 29.2%	63 70.8%	53 59.6%	29 32.6%	3 3.4%	1 1.1%	3 3.4%	0 .0%	63 70.8%	26 29.2%	89 100.0%
North Scotland	25 52.1%	23 47.9%	27 56.3%	19 39.6%	0 .0%	0 .0%	2 4.2%	0 .0%	29 60.4%	19 39.6%	48 100.0%
North Western	84 48.0%	91 52.0%	84 48.0%	78 44.6%	1 .6%	2 1.1%	7 4.0%	3 1.7%	136 77.7%	39 22.3%	175 100.0%
Northern	27 38.0%	44 62.0%	33 46.5%	30 42.3%	3 4.2%	2 2.8%	3 4.2%	0 .0%	41 57.7%	30 42.3%	71 100.0%
Northern Ireland	21 38.2%	34 61.8%	55 100.0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	54 98.2%	1 1.8%	55 100.0%
Oxford	22 31.4%	48 68.6%	34 48.6%	20 28.6%	10 14.3%	3 4.3%	3 4.3%	0 .0%	44 62.9%	26 37.1%	70 100.0%
Severn	38 34.9%	71 65.1%	87 79.8%	19 17.4%	0 .0%	1 .9%	2 1.8%	0 .0%	92 84.4%	17 15.6%	109 100.0%
South East Scotland	20 35.1%	37 64.9%	44 77.2%	8 14.0%	2 3.5%	0 .0%	2 3.5%	1 1.8%	48 84.2%	9 15.8%	57 100.0%
South West Peninsula	24 47.1%	27 52.9%	41 80.4%	7 13.7%	0 .0%	0 .0%	2 3.9%	1 2.0%	46 90.2%	5 9.8%	51 100.0%
Wales	40 43.0%	53 57.0%	58 62.4%	29 31.2%	1 1.1%	2 2.2%	2 2.2%	1 1.1%	65 69.9%	28 30.1%	93 100.0%
Wessex	25 37.3%	42 62.7%	55 82.1%	9 13.4%	0 .0%	2 3.0%	1 1.5%	0 .0%	61 91.0%	6 9.0%	67 100.0%
West Midlands	107 52.7%	96 47.3%	74 36.5%	102 50.2%	8 3.9%	0 .0%	17 8.4%	2 1.0%	115 56.7%	88 43.3%	203 100.0%
West Scotland	39 36.4%	68 63.6%	76 71.0%	26 24.3%	2 1.9%	2 1.9%	1 .9%	0 .0%	87 81.3%	20 18.7%	107 100.0%
Yorkshire & The Humber	69 43.7%	89 56.3%	91 57.6%	58 36.7%	3 1.9%	2 1.3%	2 1.3%	2 1.3%	114 72.2%	44 27.8%	158 100.0%
Total	910 42.3%	1240 57.7%	1126 52.4%	801 37.3%	76 3.5%	31 1.4%	101 4.7%	15 .7%	1578 73.4%	572 26.6%	2150 100.0%

a) CSA Result, OVERALL; No of Cases Passed, OVERALL

	Frequency	Percent
Fail	471	19.5
Pass	1949	80.5
Total	2420	100.0



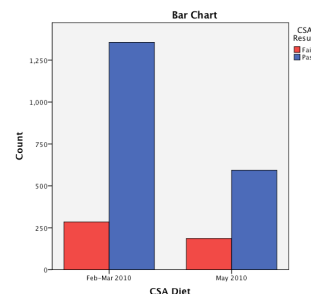
	Frequency	Percent
0	1	.0
1	2	.1
2	15	.6
3	27	1.1
4	46	1.9
5	74	3.1
6	117	4.8
7	189	7.8
8	258	10.7
9	358	14.8
10	475	19.6
11	512	21.2
12	346	14.3
Total	2420	100.0



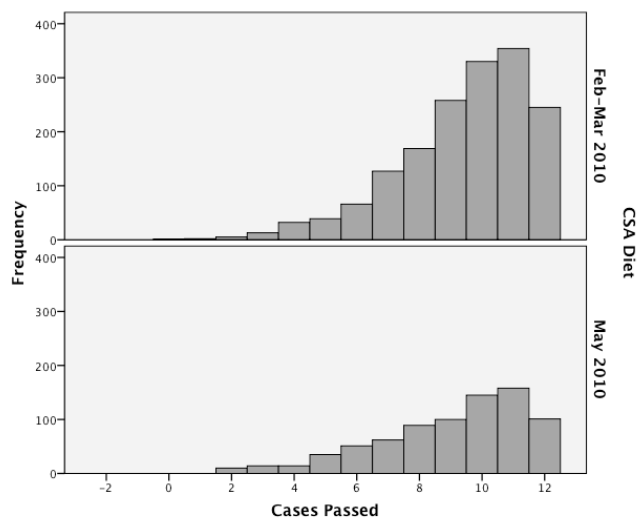
b) CSA Result, overall; No of Cases Passed - by CSA DIET

Result: $df = 1, X^2 = 14.28, p < .0001$

	CSA Result		Total
	Fail	Pass	
Feb-Mar 2010	285 17.4%	1356 82.6%	1641 100.0%
May 2010	186 23.9%	593 76.1%	779 100.0%
Total	471 19.5%	1949 80.5%	2420 100.0%



Cases	Feb-Mar 2010		May 2010	
	Frequency	Percent	Frequency	Percent
0	1	.1	0	0
1	2	.1	0	0
2	5	.3	10	1.3
3	13	.8	14	1.8
4	32	2.0	14	1.8
5	39	2.4	35	4.5
6	66	4.0	51	6.5
7	127	7.7	62	8.0
8	169	10.3	89	11.4
9	258	15.7	100	12.8
10	330	20.1	145	18.6
11	354	21.6	158	20.3
12	245	14.9	101	13.0
Total	1641	100.0	779	100.0

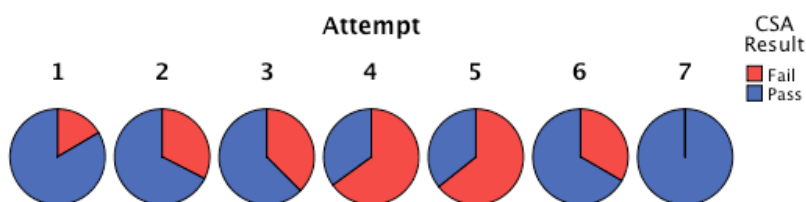


c) CSA Result, overall; No of Cases Passed - by ATTEMPT at the CSA

Result (for all candidates): $df = 6, X^2 = 94.65, p < .0001$

Cases Passed				
UK or non-UK Graduate	Attempt	N	Mean	SD
UK Graduate	1	1564	10.2	1.56
	2	85	9.7	1.68
	3	3	8.3	.58
	Total	1652	10.1	1.57
Non-UK Graduate	1	493	7.4	2.25
	2	207	8.0	2.28
	3	29	7.9	1.96
	4	20	6.6	2.70
	5	14	6.6	3.08
	6	3	8.3	3.06
	7	2	10.0	1.41
	Total	768	7.5	2.30
All Candidates	1	2057	9.5	2.12
	2	292	8.5	2.27
	3	32	7.9	1.87
	4	20	6.6	2.70
	5	14	6.6	3.08
	6	3	8.3	3.06
	7	2	10.0	1.41
	Total	2420	9.3	2.20

CSA Result						
UK or non-UK Graduate	Attempt	N	Fail N	Fail %	Pass N	Pass %
UK Graduate	1	1564	90	5.8%	1474	94.2%
	2	85	12	14.1%	73	85.9%
	3	3	0	.0%	3	100.0%
	Total	1652	102	6.2%	1550	93.8%
Non-UK Graduate	1	493	251	50.9%	242	49.1%
	2	207	83	40.1%	124	59.9%
	3	29	12	41.4%	17	58.6%
	4	20	13	65.0%	7	35.0%
	5	14	9	64.3%	5	35.7%
	6	3	1	33.3%	2	66.7%
	7	2	0	.0%	2	100.0%
	Total	768	369	48.0%	399	52.0%
All Candidates	1	2057	341	16.6%	1716	83.4%
	2	292	95	32.5%	197	67.5%
	3	32	12	37.5%	20	62.5%
	4	20	13	65.0%	7	35.0%
	5	14	9	64.3%	5	35.7%
	6	3	1	33.3%	2	66.7%
	7	2	0	.0%	2	100.0%
	Total	2420	471	19.5%	1949	80.5%

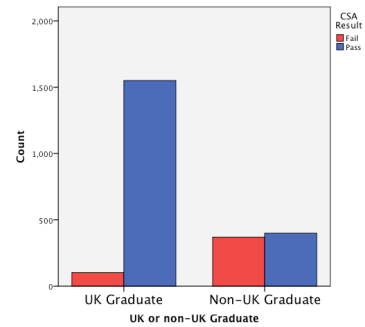


d) CSA Result, overall; No of Cases Passed - by SOURCE OF PRIMARY MEDICAL QUALIFICATION (PMQ)

Result: $df = 1, X^2 = 586.4, p < .00001$

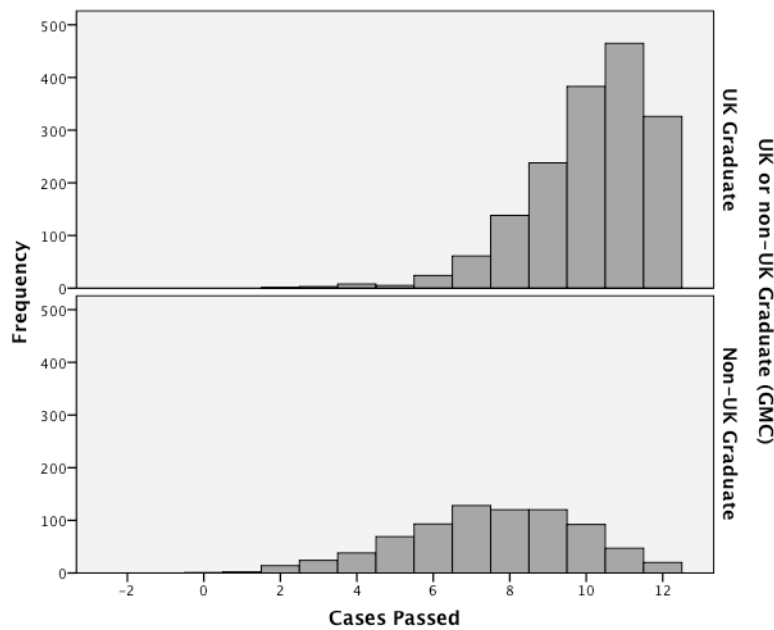
Result by Source of PMQ (UK or non-UK Graduate)

	CSA Result		Total
	Fail	Pass	
UK Graduate	102 6.2%	1550 93.8%	1652 100.0%
Non-UK Graduate	369 48.0%	399 52.0%	768 100.0%
Total	471 19.5%	1949 80.5%	2420 100.0%



Descriptive Statistics

UK or non-UK Graduate	N	Minimum	Maximum	Mean	Std. Deviation
UK Graduate	1652	2	12	10.13	1.57
Non-UK Graduate	768	0	12	7.51	2.30

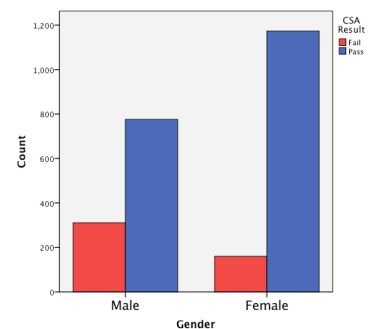


e) CSA Result - by CANDIDATE GENDER

$df = 1, X^2 = 105.4, p < .0001$

Result by Gender

	CSA Result		Total
	Fail	Pass	
Male	311 28.6%	776 71.4%	1087 100.0%
Female	160 12.0%	1173 88.0%	1333 100.0%
Total	471 19.5%	1949 80.5%	2420 100.0%

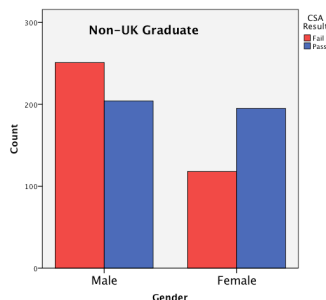
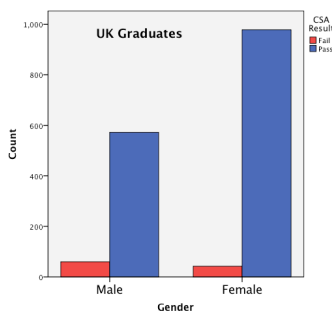


f) CSA Result, overall - by CANDIDATE GENDER *within* SOURCE OF PMQ

UK graduates: $df = 1, X^2 = 19.5, p < .0001$; non-UK graduates: $df = 1, X^2 = 22.7, p < .0001$

Result by Gender by Source of PMQ

			CSA Result		Total
			Fail	Pass	
UK Graduate	Male	Count	60	572	632
		% within Gender (from GMC Register)	9.5%	90.5%	100.0%
	Female	Count	42	978	1020
		% within Gender (from GMC Register)	4.1%	95.9%	100.0%
	Total	Count	102	1550	1652
		% within Gender (from GMC Register)	6.2%	93.8%	100.0%
Non-UK Graduate	Male	Count	251	204	455
		% within Gender (from GMC Register)	55.2%	44.8%	100.0%
	Female	Count	118	195	313
		% within Gender (from GMC Register)	37.7%	62.3%	100.0%
	Total	Count	369	399	768
		% within Gender (from GMC Register)	48.0%	52.0%	100.0%

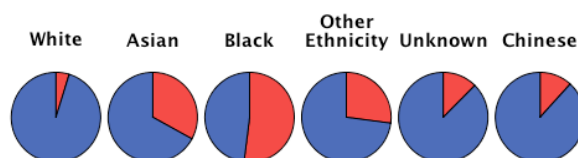


g) CSA Result - by CLASSIFIED CANDIDATE ETHNICITY

Result: $df = 5, X^2 = 348., p < .00001$

Result by Candidate Ethnic Group

	CSA Result		Total
	Fail	Pass	
White	56 4.8%	1111 95.2%	1167 100.0%
Asian	325 33.0%	660 67.0%	985 100.0%
Black	52 52.0%	48 48.0%	100 100.0%
Other Ethnicity	32 27.1%	86 72.9%	118 100.0%
Unknown	2 12.5%	14 87.5%	16 100.0%
Chinese	4 11.8%	30 88.2%	34 100.0%
Total	471 19.5%	1949 80.5%	2420 100.0%



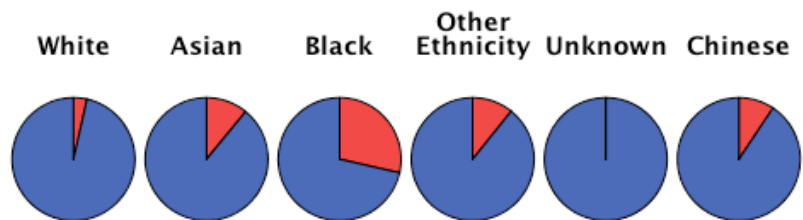
h) CSA Result - by CLASSIFIED CANDIDATE ETHNICITY *within* SOURCE OF PMQ

UK graduates: $df = 5, X^2 = 57.5, p < .0001$; non-UK graduates: $df = 5, X^2 = 17.3, p < .005$

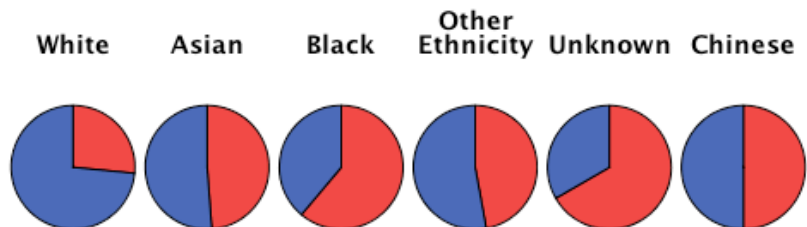
Result by Candidate Ethnic Group by Source of PMQ

		CSA Result		Total
		Fail	Pass	
UK Graduate	White	39 3.5%	1064 96.5%	1103 100.0%
	Asian	45 10.9%	366 89.1%	411 100.0%
	Black	8 28.6%	20 71.4%	28 100.0%
	Other Ethnicity	7 10.8%	58 89.2%	65 100.0%
	Unknown	0 .0%	13 100.0%	13 100.0%
	Chinese	3 9.4%	29 90.6%	32 100.0%
	Total	102 6.2%	1550 93.8%	1652 100.0%
	Non-UK Graduate	White	17 26.6%	47 73.4%
Asian		280 48.8%	294 51.2%	574 100.0%
Black		44 61.1%	28 38.9%	72 100.0%
Other Ethnicity		25 47.2%	28 52.8%	53 100.0%
Unknown		2 66.7%	1 33.3%	3 100.0%
Chinese		1 50.0%	1 50.0%	2 100.0%
Total		369 48.0%	399 52.0%	768 100.0%

UK Graduates:



Non-UK Graduates:



i) CSA & Disability: prevalence by Attempt; Outcomes

There were 18 disabled candidates in all making 20 attempts. 16 first attempt candidates reporting a disability, passed. Two disabled candidates, non-UK graduates, took the CSA twice in this period, failing on the first attempt: one—with dyslexia—passed on the second occasion, having increased the number of passed cases from 6 to 9; the other—with a hearing impairment—failed, having moved from 7 to 5 passed cases.

CSA Candidates with Disabilities					
Disability	Attempt				Total
	1	2	3	4	
Dyslexia	11	1	0	0	12
Hearing impaired	3	1	0	0	4
More than one disability	1	0	0	0	1
Other disability	3	0	0	0	3
Physical disabilities	0	0	0	0	0

CSA Candidates with Disabilities: Passes					
Disability	Attempt				Total
	1	2	3	4	
Dyslexia	10	1	0	0	11
Hearing impaired	2	0	0	0	2
More than one disability	1	0	0	0	1
Other disability	3	0	0	0	3
Physical disabilities	0	0	0	0	0

j) CSA OUTCOMES BY TRAINING DEANERY

Result: $df = 19, X^2 = 89.6, p < .0001$

CSA Outcomes by Deanery									
Deanery	Cases Passed - Descriptive Statistics				CSA Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Armed Forces (Defence)	8	12	10.0	1.40	0	.0%	23	100.0%	23
East Midlands	2	12	9.5	2.40	27	19.0%	115	81.0%	142
East of England	0	12	8.4	2.40	46	29.9%	108	70.1%	154
East Scotland	5	12	10.1	1.74	1	4.5%	21	95.5%	22
Kent, Surrey, Sussex	1	12	9.3	2.13	43	20.4%	168	79.6%	211
London	2	12	9.5	2.15	67	19.2%	282	80.8%	349
Mersey	2	12	8.9	2.47	22	21.6%	80	78.4%	102
North Scotland	3	12	8.0	2.68	25	43.1%	33	56.9%	58
North Western	3	12	9.5	1.85	29	14.9%	165	85.1%	194
Northern	2	12	8.8	2.27	22	26.2%	62	73.8%	84
Northern Ireland	6	12	10.3	1.46	3	5.2%	55	94.8%	58
Oxford	4	12	8.9	2.26	22	26.8%	60	73.2%	82
Severn	2	12	10.1	1.92	9	8.0%	104	92.0%	113
South East Scotland	5	12	9.9	1.68	7	11.5%	54	88.5%	61
South West Peninsula	4	12	9.9	1.95	6	11.3%	47	88.7%	53
Wales	3	12	9.3	2.18	18	17.6%	84	82.4%	102
Wessex	5	12	10.2	1.52	4	5.9%	64	94.1%	68
West Midlands	2	12	8.7	2.45	66	27.3%	176	72.7%	242
West Scotland	2	12	9.3	2.00	27	21.1%	101	78.9%	128
Yorkshire & The Humber	3	12	9.6	2.03	27	15.5%	147	84.5%	174
Total	0	12	9.3	2.20	471	19.5%	1949	80.5%	2420

k) CSA Result - by SOURCE OF PRIMARY MEDICAL QUALIFICATION, subdivided

1 FOR UK GRADUATES, BY MEDICAL SCHOOL

CSA Outcomes by UK Medical School									
UK Medical School	Cases Passed - Descriptive Statistics				CSA Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Aberdeen	6	12	9.8	1.43	2	3%	57	97%	59
Belfast	6	12	10.1	1.54	4	6%	61	94%	65
Birmingham	4	12	10.1	1.69	10	10%	86	90%	96
Bristol	3	12	10.2	1.83	4	7%	52	93%	56
Cambridge	6	12	10.1	1.53	1	7%	14	93%	15
Dundee	4	12	10.0	1.78	5	10%	45	90%	50
Edinburgh	6	12	10.4	1.26	1	2%	48	98%	49
Glasgow	5	12	10.3	1.39	4	5%	71	95%	75
Leeds	7	12	10.3	1.31	1	1%	72	99%	73
Leicester	5	12	10.2	1.69	3	6%	45	94%	48
Liverpool	6	12	10.3	1.41	1	1%	69	99%	70
London (school unknown)	6	11	9.0	2.65	1	33%	2	67%	3
London (Barts & London)	2	12	9.4	1.73	13	14%	81	86%	94
London Imperial College	4	12	10.5	1.57	4	4%	85	96%	89
London King's College	4	12	10.1	1.64	8	10%	76	90%	84
London St George's	6	12	10.1	1.55	5	8%	59	92%	64
London University College	4	12	10.0	1.70	10	10%	89	90%	99
Manchester	3	12	10.1	1.46	5	4%	136	96%	141
Newcastle-upon-Tyne	5	12	10.1	1.49	2	4%	45	96%	47
Nottingham	4	12	10.3	1.53	4	5%	72	95%	76
Oxford	8	12	10.7	1.27	0	%	18	100%	18
Sheffield	3	12	10.0	1.81	6	8%	70	92%	76
Southampton	7	12	10.1	1.50	4	5%	71	95%	75
Wales	5	12	10.3	1.47	3	3%	97	97%	100
Warwick	7	12	10.4	1.38	1	3%	29	97%	30
Total	0	12	9.3	2.20	102	6%	1550	94%	1652

2 FOR NON-UK GRADUATES, BY COUNTRY OF PRIMARY MEDICAL QUALIFICATION

CSA Outcomes by non-UK Country of Primary Medical Qualification: Table 1 of 2									
Country A-M	Cases Passed - Descriptive Statistics				CSA Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Albania	7	8	7.5	.71	1	50%	1	50%	2
Algeria	8	8	8.0	.	0	%	1	100%	1
Australia	8	12	10.0	2.83	0	%	2	100%	2
Bangladesh	0	9	4.2	2.34	12	92%	1	8%	13
Bulgaria	7	10	8.5	2.12	1	50%	1	50%	2
China	7	7	7.0	.	1	100%	0	%	1
Colombia	7	10	8.6	1.34	1	20%	4	80%	5
Czech Republic	3	11	7.6	2.04	13	48%	14	52%	27
Denmark	9	9	9.0	.	0	%	1	100%	1
Egypt	5	12	8.6	2.37	3	43%	4	57%	7
France	11	11	11.0	.	0	%	1	100%	1
Germany	8	11	9.4	1.14	0	%	5	100%	5
Ghana	5	11	7.0	2.71	3	75%	1	25%	4
Greece	4	4	4.0	.	1	100%	0	%	1
Grenada	7	10	8.7	1.53	1	33%	2	67%	3
Hungary	7	11	9.0	1.83	1	25%	3	75%	4
India	1	12	7.6	2.23	161	47%	181	53%	342
Iran, Islamic Republic Of	5	10	8.2	2.14	5	45%	6	55%	11
Iraq	2	12	7.1	2.20	17	63%	10	37%	27
Ireland	3	12	8.9	2.67	2	22%	7	78%	9
Israel	7	10	8.5	2.12	1	50%	1	50%	2
Italy	6	6	6.0	.	1	100%	0	%	1
Jamaica	4	10	7.6	1.99	2	29%	5	71%	7
Kenya	8	8	8.0	.	0	%	1	100%	1
Latvia	5	8	6.5	2.12	1	50%	1	50%	2
Lithuania	9	9	9.0	.	0	%	1	100%	1
Myanmar	5	10	7.7	2.52	1	33%	2	67%	3

contd ..

CSA Outcomes by non-UK Country of Primary Medical Qualification: Table 2 of 2									
Country N-Z	Cases Passed - Descriptive Statistics				CSA Result				N Total
	Min	Max	Mean	SD	Fail N	Fail %	Pass N	Pass %	
Nepal	5	10	7.3	1.98	3	43%	4	57%	7
Netherlands	4	9	7.0	2.65	1	33%	2	67%	3
New Zealand	9	11	10.0	1.41	0	%	2	100%	2
Nigeria	2	11	6.7	2.33	35	63%	21	38%	56
Pakistan	2	12	7.5	2.18	59	48%	63	52%	122
Papua New Guinea	10	10	10.0	.	0	%	1	100%	1
Philippines	7	11	9.0	2.83	1	50%	1	50%	2
Poland	9	10	9.5	.71	0	%	2	100%	2
Portugal	12	12	12.0	.	0	%	1	100%	1
Romania	5	12	7.6	2.68	7	58%	5	42%	12
Russian Federation	4	12	6.8	2.27	10	63%	6	38%	16
Sierra Leone	5	9	7.0	2.83	1	50%	1	50%	2
South Africa	4	12	9.3	2.02	2	13%	14	88%	16
Spain	6	9	7.7	1.53	1	33%	2	67%	3
Sri Lanka	1	11	6.8	2.40	11	69%	5	31%	16
Sudan	9	9	9.0	.	0	%	1	100%	1
Syrian Arab Republic	10	10	10.0	.	0	%	1	100%	1
Tanzania, United Republic Of	6	6	6.0	.	1	100%	0	%	1
Tunisia	3	6	4.0	1.73	3	100%	0	%	3
Turkey	4	9	6.5	3.54	1	50%	1	50%	2
Uganda	9	9	9.0	.	0	%	1	100%	1
Ukraine	4	11	8.0	3.32	2	40%	3	60%	5
United Arab Emirates	8	8	8.0	.	0	%	1	100%	1
Venezuela	8	8	8.0	.	0	%	1	100%	1
Zimbabwe	3	10	7.2	2.40	2	33%	4	67%	6
Total	0	12	7.5	2.30	369	48%	399	52%	768

I) CSA FEEDBACK STATEMENTS, AS % OF ALL 'FAILED' CASES: ALL CANDIDATES, and by SOURCE OF PRIMARY MEDICAL QUALIFICATION

Table gives the numbered feedback statements in order of prevalence, by candidate group, together with the percentage of all cases 'failed' in that candidate group receiving the feedback statement.

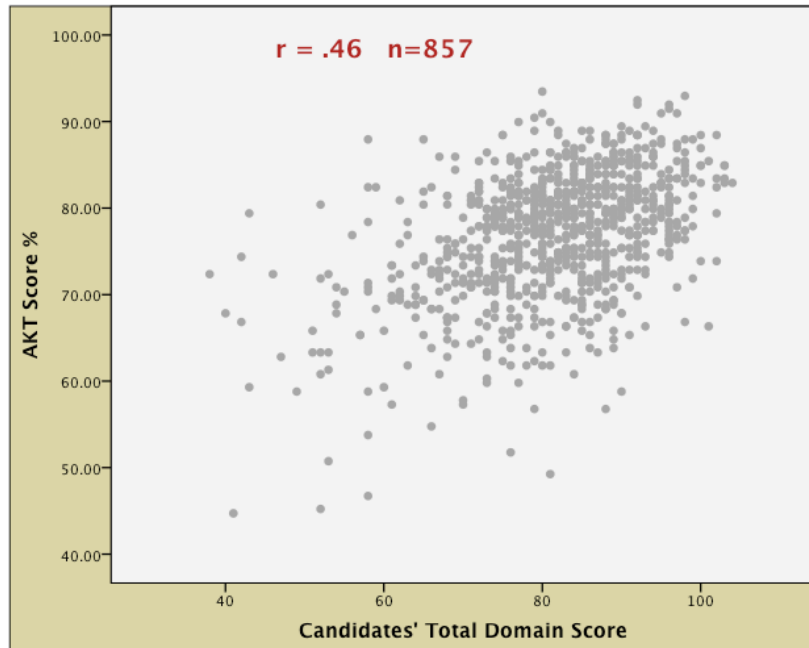
All Candidates N = 6527 Cases	% within Group
06 Does not make the correct working diagnosis or identify an appropriate range of differential possibilities	65.59%
14 Does not identify or use appropriate psychological or social information to place the problem in context	39.93%
10 Does not attempt to promote good health at opportune times in the consultation	33.29%
05 Does not undertake physical examination competently, or use instruments proficiently	28.53%
01 Disorganised / unstructured consultation	27.53%
02 Does not recognise the issues or priorities in the consultation (for example, the patient's problem, ethical dilemma etc)	26.57%
08 Does not make adequate arrangements for follow-up and safety netting	25.14%
16 Does not use language and/or explanations that are relevant and understandable to the patient	20.91%
09 Does not demonstrate an awareness of management of risk or make the patient aware of relative risks of different options	20.19%
13 Does not make adequate use of verbal & non-verbal cues. Poor active listening skills	19.79%
03 Shows poor time management	19.64%
11 Does not appear to develop rapport or show sensitivity for the patient's feelings	19.55%
07 Does not develop a management plan (including prescribing and referral) reflecting knowledge of current best practice	19.26%
15 Does not develop a shared management plan, demonstrating an ability to work in partnership with the patient	17.77%
12 Does not identify or explore information about patient's agenda, health beliefs & preferences	11.06%
04 Does not identify abnormal findings or results or fails to recognise their implications	8.63%
UK Graduates N = 3329 Cases	
06 Does not make the correct working diagnosis or identify an appropriate range of differential possibilities	66.78%
14 Does not identify or use appropriate psychological or social information to place the problem in context	41.21%
05 Does not undertake physical examination competently, or use instruments proficiently	30.61%
10 Does not attempt to promote good health at opportune times in the consultation	30.10%
02 Does not recognise the issues or priorities in the consultation (for example, the patient's problem, ethical dilemma etc)	27.55%
08 Does not make adequate arrangements for follow-up and safety netting	24.36%
01 Disorganised / unstructured consultation	22.53%
03 Shows poor time management	20.01%
07 Does not develop a management plan (including prescribing and referral) reflecting knowledge of current best practice	19.38%
09 Does not demonstrate an awareness of management of risk or make the patient aware of relative risks of different options	19.32%
16 Does not use language and/or explanations that are relevant and understandable to the patient	18.08%
15 Does not develop a shared management plan, demonstrating an ability to work in partnership with the patient	16.85%
13 Does not make adequate use of verbal & non-verbal cues. Poor active listening skills	15.83%
11 Does not appear to develop rapport or show sensitivity for the patient's feelings	15.26%
12 Does not identify or explore information about patient's agenda, health beliefs & preferences	9.94%
04 Does not identify abnormal findings or results or fails to recognise their implications	8.56%
Non-UK Graduates N = 3198 Cases	
06 Does not make the correct working diagnosis or identify an appropriate range of differential possibilities	64.35%
14 Does not identify or use appropriate psychological or social information to place the problem in context	38.59%
10 Does not attempt to promote good health at opportune times in the consultation	36.62%
01 Disorganised / unstructured consultation	32.74%
05 Does not undertake physical examination competently, or use instruments proficiently	26.36%
08 Does not make adequate arrangements for follow-up and safety netting	25.95%
02 Does not recognise the issues or priorities in the consultation (for example, the patient's problem, ethical dilemma etc)	25.55%
11 Does not appear to develop rapport or show sensitivity for the patient's feelings	24.02%
13 Does not make adequate use of verbal & non-verbal cues. Poor active listening skills	23.92%
16 Does not use language and/or explanations that are relevant and understandable to the patient	23.86%
09 Does not demonstrate an awareness of management of risk or make the patient aware of relative risks of different options	21.11%
03 Shows poor time management	19.26%
07 Does not develop a management plan (including prescribing and referral) reflecting knowledge of current best practice	19.14%
15 Does not develop a shared management plan, demonstrating an ability to work in partnership with the patient	18.73%
12 Does not identify or explore information about patient's agenda, health beliefs & preferences	12.23%
04 Does not identify abnormal findings or results or fails to recognise their implications	8.69%

5: Inter-component Statistics and Analytical Statistics of Test Quality

Inter-component Statistics

Currently it is only possible to make comparisons between the performance of candidates between the AKT and the CSA. Even this is not straightforward: until recently, candidates were able to take the AKT at any time in their training, and the CSA at any time in their final year; thus one candidate may take both tests at about the same time in their training, another might take them two years apart; and of course candidates can have more than one attempt at either test.

That said, many candidates take the AKT early in ST3 and the CSA in the middle of ST3. When numbers are large (hundreds) in this situation, typical correlations between AKT and CSA are around 0.5.



The accompanying scatterplot is an example showing such a relationship between candidates' scores in the September AKT (2009) and in the CSA the following January through May (2010). The analysis is limited to candidates on their first attempt.

Test Quality Information: AKT

Coefficient alpha (and the measurement error estimate) of the three diets of the AKT is straightforwardly calculated. Alpha continues to be very constant and was 0.90 and 0.89 for the two diets (January and April, respectively); no items were excluded from either diet due to underperformance; and the SEm was 2.8%. These quality indicators describe a multi-choice assessment which is performing to an excellent standard.

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 (roughly 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 good consistency 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 stability vs test security and fairness. The number taking the CSA varies considerably between diets.

Thus the quality of the CSA is monitored both qualitatively and quantitatively, the latter at a number of levels of detail with different objectives—but with reliability and fairness always foremost in mind. 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 varies greatly day on day: here, ability can be estimated not just from a rather self-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 global scores which, having limited variance (0, 1, 2 or 3), tend to minimise the consequent alpha coefficients.

On this basis, overall, in 2009 the CSA daily alpha averaged 0.70 (0.70 in 2008, 0.72 in 2009) with the 12 cases presently used. The range was 0.56 to 0.78.

For the following report in 2010-2011, a number of developments will have taken place:

- the difficulty of the daily 'palette' will be better monitored better and more formally equated;
- the way in which candidates' grades on the CSA are converted to a score will be modified, so as to make use of the three domain scores as opposed to the global score;
- the sophistication of the standard-setting process will be enhanced using a more conventional borderline group system; and
- the number of operational stations will be increased from 12 to 13.

This is expected to improve equity to candidates across the days and circuits and also modestly to enhance the assessment's reliability.

As noted last year, there are technical issues and arguments which propose that the alpha coefficient, whose importance is emphasised by PMETB (as it was) particularly, may not be the only important (or best) indicator of the quality of an assessment such as the CSA, and the assessment will work on reducing its measurement error alongside these developments. However, from a psychometric point of view, it is unlikely that candidate performance in a specialty with the unique breadth and dimensions of general practice and the range of skills necessarily to be tested under examination conditions, can ever be assessed to the accuracy sought by PMETB (consistently, $\alpha = 0.8 - 0.9$) with the testing time currently permitted (approx 2 hrs). For the RCGP, this continues to be exacerbated by the singular tribulation amongst Royal Colleges of having to make payment to its examiners, which provides an inevitable additional restraint on test length.

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