Candidates’ views of the RCGP Applied Knowledge Test 2012
Initial report

Introduction
The Royal College of General Practitioners introduced both a new process and method for assessing applied knowledge as one of the components of a licensing examination for general practice (nMRCGP) in October 2007.

The Applied Knowledge Test (AKT) is a 200 item computer-delivered multiple choice test offered three times a year and forms part of the Membership of the Royal College of General Practitioners (MRCGP) examination, which licenses doctors for UK general practice.

Background
The test assesses candidates’ knowledge of common important areas of general practice, including general medicine, medical specialties, practice administration, epidemiology, research and statistics.

The test is set by ten examiners all working in clinical general practice in the UK. Questions are selected from a blueprint and relate to the current curriculum. The test is available three times a year for general practitioner registrars undertaking training programmes in general practice.

Test items in the AKT are based on the RCGP curriculum blueprint, referenced to current evidence, and peer reviewed and critically appraised before they are added to the question bank. There is a standardised process for question selection and test construction and standard setting follows a modified Angoff process, whereby a panel of experts make individual judgements on each question of the test estimating the likelihood of the ‘just passing candidate’ answering correctly.

Pre-trialling of new questions is deemed unnecessary due to a systematic process of question and test construction and evaluation which quality assures the AKT. This ensures that items are testing current knowledge and guidelines.

Introduction
The AKT uses a number of question formats to test the breadth and depth of candidates’ knowledge. These include single best answer, extended matching items, pictorial images and more recently, free text response items and “drag and drop” items, where candidates have to complete an algorithm or table by placing tokens.

Test delivery
The AKT is delivered in 150 (Pearson VUE) test centres around the UK. These are at convenient and accessible locations for candidates. There are two sessions on each test date, morning and afternoon, with all candidates sitting the same test form. Test centres are invigilated and strictly controlled with identity checking and quarantining of morning and afternoon candidates to prevent communication between them. Appropriate adjustments for candidates with disabilities are provided to ensure that current statutory regulations are met.

Methodology
While an evaluation of the first AKT was undertaken in 2007, this was paper-based with only a small sample of candidates. It was therefore decided to undertake a larger survey of
candidates immediately after taking the examination. In October 2012 at the end of the AKT 16 test, all candidates were asked to complete a short questionnaire to seek their views on the content of the test. Assurances were given that no individual would be identified in the findings of the study. It was estimated that the questionnaire would take no longer than 10 minutes to complete. Candidates were asked to amplify some of their responses to three questions with free text comments.

**Quantitative responses**

1681 candidates were given the opportunity to respond to the questionnaire. One candidate skipped the questionnaire and 262 did not respond to any questions, giving a response rate of 1418 (84%).

**Most difficult and easiest topic areas**

From a list of 13 options (Box 1), candidates were asked to identify three topic areas which they found most difficult and three areas which they found the easiest. Research and statistics, administration and management, and therapeutics were identified by 1006 (71%), 872 (61%) and 475 (33%) of candidates respectively as being the most difficult, while general medicine, women’s health and surgery were identified as being the easiest by 680 (48%), 487 (34%) and 477 (34%) candidates respectively.

<table>
<thead>
<tr>
<th>Box 1</th>
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<tr>
<td>- General medicine</td>
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<td>- Surgery</td>
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<td>- Psychiatry</td>
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<td>- Child health</td>
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<td>- Research &amp; statistics</td>
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<td>- Administration &amp; management</td>
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<td>- Ethics</td>
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Candidates were asked to select up to three reasons from a list of seven, about why they had found questions difficult (Box 2). 1027 candidates (72%) recognised that they had identified gaps in their knowledge and 623 candidates (44%) selected time-consuming questions as one of the three reasons. 499 candidates (35%) believed that topics did not appear relevant to general practice and 438 candidates (31%) were not aware that they should know about a topic. Only 169 candidates (12%) found the free text format questions more difficult. This format performs well statistically. Only 34 (2%) identified the drag and drop question format as being more difficult. This has only recently been introduced into the AKT.

<table>
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<th>Box 2</th>
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<td>- Identified gaps in my knowledge</td>
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<td>- I did not understand the questions</td>
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<td>- The topics did not appear relevant to general practice</td>
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<td>- They were too time-consuming</td>
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<td>- I was not aware that I should know about the topic</td>
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<td>- Free text format made the question more difficult</td>
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<td>- Drag and drop format made the question more difficult</td>
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Candidates' views on the relevance of the AKT in assessing their application of knowledge in general practice.

From a menu (Box 3), candidates were asked to identify up to three statements that best reflected their views of the relevance of the AKT in assessing their application of knowledge in general practice. Of the ten choices, 481 of the 1418 candidates selected the statement that the test assessed their knowledge of important problems, and 561 that the test assessed the application of their knowledge.

Eight of the statements were paired choices but the questionnaire format did not require the candidates to select one of each of the paired statements. The numbers selecting the options are listed in Box 3. 836 candidates selected the statement that the test assessed their knowledge of problems relevant to general practice with only 110 selecting the opposite view. 664 chose the statement that the test assessed the range of their knowledge with 208 selecting the opposite view and 458 selected the statement that the test was appropriate for GP in training with only 91 not agreeing. 171 candidates selected the statement that the questions were ambiguous and unclear with 124 choosing the opposite view.

Box 3
**Candidates were asked to select three of the following ten statements:**

- Overall the test assessed my knowledge of *important* problems in general practice  
  - 481
- Overall the test assessed my ability to *apply my knowledge* to problems in general practice  
  - 561
- Overall the test assessed my knowledge of *problems relevant* to general practice  
  - 836
- Overall the test questions were *not relevant* to general practice  
  - 110
- Overall the questions *tested the range of my knowledge*  
  - 664
- Overall the questions *did not test the range of my knowledge*  
  - 208
- Overall the questions in the test were *appropriate* for GP trainees at the end of specialty training  
  - 458
- Overall the questions in the test were *not appropriate* for GP trainees at the end of specialty training  
  - 91
- Overall the questions in the test were *unambiguous*  
  - 124
- Overall the questions in the test were *ambiguous and unclear*  
  - 171

Candidates were also asked to identify any questions that they felt were less relevant to the work of a GP, to give examples and state why. The responses are currently being analysed to identify key themes.

**Candidates not answering all the questions**

1284 candidates (91% of those responding) had answered all 200 questions in the test, with only 134 saying they had not completed the test. Candidates were asked to give up to three reasons (Box 4) why they had not answered all the questions. 34 candidates stated that the questions were too difficult, 78 that they took too long to read and 53 believed that they were too complex. 22 candidates indicated that they had kept reviewing questions and changing their answers and 7 had found the computer format difficult to use.
Box 4

- I answered all the questions

*Candidates who did not answer all the questions were asked to select up to three of the following statements:*

- Questions were too difficult
- Questions took too long to read
- Questions were too complex
- I kept reviewing questions and changing my answers
- I found the computer format difficult to use

*Preparation for the AKT*

The questionnaire also sought to identify how candidates had prepared for the AKT and were asked to identify the three most useful sources (Box 5). While the majority of candidates 1225 (86%) identified commercial revision material as the most useful source (e.g., onexamination, Pastest), a few, 155 (11%) selected commercial MRCGP revision courses. However many, 495 (35%) also saw the MRCGP exam section of the RCGP website as a useful source. The RCGP MRCGP revision courses were identified by only 100 (7%) candidates. The educational supervisor was also seen as a revision source by 309 (22%) candidates, the RCGP curriculum by 362 (26%) and other specialty trainees by 337 (24%).

Box 5

- Your Educational Supervisor/Trainer
- Group teaching organised as part of the specialty training scheme
- Other GP Specialty Trainees
- RCGP Curriculum
- MRCGP exam section of RCGP website e.g. sample AKT questions
- RCGP educational material e.g. the Essential Knowledge Challenge
- RCGP MRCGP revision course
- Commercial revision material (e.g., onexamination, Pastest)
- Commercial MRCGP revision course

*Duration of GP specialty training*

Candidates were asked to identify how long they had spent in general practice as part of specialty training at the time they took the AKT.

Most (64%) had spent between 6 and 12 months in specialty training and fewer (19%) between 0 and 5 months. Only 131 candidates (9%) had spent between 13 and 18 months and 71 (5%) over 18 months.

Those candidates sitting the AKT for the first time were asked to give reasons as to why they sat the AKT at this point in their training. These free text responses are currently being analysed to identify key themes.
General practice experience as part of a Foundation programme

Approximately equal numbers of candidates had either no experience of general practice prior to specialty training, 572 (40%), or 4 months in general practice, 575 (41%). A small number 67 (5%) had 3 months’ experience and 117 (8%) others had 6 months’ experience in general practice. It may be useful to compare the performance of the cohorts who had and had not had experience of general practice in a foundation programme.

Equality and diversity

As part of monitoring equality and diversity in the MRCGP, candidates were asked if English was their preferred language for reading and writing, and if not, candidates were asked to specify their preferred language.

34 (2%) of candidates stated that their preferred language for reading and writing was not English and gave free text answers about their preferred language. These responses are being analysed.

Finally candidates were asked to make any other comments they had about the AKT. These free text responses are currently being reviewed to identify key themes.

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