MRCGP AKT
Fairness Review (FR) November 2024

Summary of Action Points

1. AKT Exam content

a. Continue planned work to increase clarity of lead-in questions
Actions – significant review of all lead-in questions undertaken December 2024, plus an independent, expert linguist review, scheduled February 2025

b. Support of the use of simple language and less complex or long scenarios
Actions – this is already, and will continue to be, one of the main focuses of item writing training and ongoing quality assurance. Careful attention is given to sentence construct and length, the avoidance of superfluous wording and reading ease. There are intentionally few items with long scenarios, but these are sometimes needed e.g. ethical scenarios. It should be noted that a previous external independent linguistic review demonstrated reassuringly low IELTS scores for AKT items. An independent, expert linguist review has already been commissioned for February 2025

c. Continue to review use of medical and lay language within question scenarios
Action – independent, expert linguist review, February 2025

d. Ensure that any unnecessary information in a table and/or review article text be removed
Action - this is already being implemented through item writer and exam construction training, with all items needing to pass a refined face validity analysis

e. Avoid the use of negatively phrased questions
Action – these are rarely used in the AKT, and any necessary usage will be closely monitored

f. Smaller fonts are more difficult to read – for example, within charts and graphs reproduced from external source documents
Action – in addition to reviewing any unnecessary information in charts and graphs, AKT team to discuss with test provider how to incorporate Zoom screen function as well as current click to enlarge functionality

g. Ensure the style of data interpretation questions are relevant to GPs
Action - already under ongoing review with additional item writer and exam construction training, and all items needing to pass a refined face validity analysis

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2. RCGP Exam and Education teams

a. Continue to increase the number of RCGP AKT exam website resources, to help GP Registrars
Action – ongoing development of resources planned with budgetary approval
b. The group asked for more guidance for GP Registrars on the AKT, and how to help trainees prepare. Like Fairness review 2023, much of the suggested information is already available on the exam website.
Action - Review the distribution of updates to existing AKT website resources, and increase awareness
c. Fairness review meetings to rotate venues
Action – it was agreed that this is a good idea, although the venue in London for the 2025 review has already been booked

3. Training providers

The group raised the following suggestions:

a. Plan to teach topics where gaps in experience are predictable. The group members had differing experiences in their training. The groups wanted training to better focus on their needs relevant to the exam. This was suggested especially to fill the gaps in experience arising from different undergraduate and early postgraduate training, and those caused by delegation to other team members.
b. There was consensus that training schemes could help GP Registrars to better identify and address gaps in their own knowledge and experience. IMGs are less likely to have been taught or have experience in research and audit, have less knowledge of the NHS system and less awareness of what the priorities amongst the wide GP Curriculum are. Although there appear to be specific themes, learning needs are individual, and group members wanted to avoid different groups with differential attainment being stigmatised.
c. Four specific areas were highlighted during this discussion: safeguarding and mental health assessment, data interpretation, and evidence-based medicine.
d. The groups felt that data interpretation and medical statistics teaching could be improved. A mathematical background at 'A' level (or equivalent) is maybe more likely in UKGs. IMGs may find difficulty with methodology and some statistical concepts e.g. confidence intervals.
e. The groups felt that exam revision courses should concentrate more on data interpretation and graphs (rather than technical statistics), in keeping with the emphasis in the exam. The RCGP, however, has limited ability to influence this as most courses are independently and commercially run. The group told us that they found that the variety and volume of commercial resources was overwhelming. They wanted the

RCGP to provide greater resources and more feedback to trainers to help them to provide better targeted training.

f. The groups suggested that some of their clinical experience in their primary care workplace should include pre-chosen patient lists and/or restrictions on common conditions in their surgeries to ensure greater spread of practical knowledge acquisition.

Action – RCGP to share FR24 outcomes with training provider stakeholders

4. Other

- The group recommended an SCA fairness review. This is outside the scope of the AKT team. However, we have shared the findings with the senior SCA management team

5. Areas unchanged

- Group members felt that the AKT includes 'a lot of therapeutics'. On being informed that analyses showed this to be up to 30% they still said it 'felt like more'.
- The AKT will continue to be based as much as possible on applied knowledge questions, which are often perceived as more difficult than purely factual questions
  Action – to complete the outstanding piece of work from FR23, namely, to add a website resource with an explanation of specific lead-ins.
- Throughout the year any items identified as showing significant item DIF are reviewed, and those with a high DIF, or which cannot be more easily explained*, are flagged for the next annual Fairness Review (scheduled September 2025).

*Most highlighted item DIF is relatively easily explained, for example:

- women tend to score higher marks than men on female health questions such as contraception, and on infant heath questions. This is likely due to the types of consultations women see more frequently in primary care, and their own personal family experiences
- UKGs tend to score higher marks on data interpretation questions. This is likely due to differences in undergraduate and postgraduate training experiences, and, despite clear GP Curriculum statements, a feeling of uncertainty for some IMGs why such questions are included in the exam
- IMGs tend to score lower marks on organisation and management questions. This is likely due to having had less experience of UK primary care culture and practice.

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Outline of the day

Background

An RCGP advert asking for volunteers (expenses remunerated) was sent by email cascade to stakeholders and educational provider leads. Twenty GP Registrars and Newly Qualified GPs, who had passed the AKT, were randomly selected based on a spread of demographic and geographic factors to ensure a mixed group.

This was a routinely scheduled, annual quality assurance review of the fairness of content and question style within the MRCGP AKT assessment.

Agenda

1. Participant confidentiality and consent agreements
2. Background and rationale for annual Fairness Reviews
3. Review of FR 2023 Action Points - all have been actioned or progressed, except for the publication on the AKT website of an example scenario with an explanation of specific lead-ins. This is scheduled to be completed.
4. Independent psychometric expert explanation of differential item analysis (DIF) and the process of individual item review
5. Question and answer session
6. Two separate small group workshops to each review a different set of 30 paired questions. Both groups were initially blinded to which question of the pairing showed significant DIF and which did not. The DIF questions were identified by the independent psychometric team from the previous 12 months of AKT exams.
7. The two groups were:
    a. led by facilitators
    b. recorded with consent
    c. observed by three AKT Core Group observers
    d. observed by the independent Psychometric expert
8. Themes and priorities were collated by the two small group facilitators and checked for accuracy with group members
9. Whole group summary of views, discussion and action points agreed

This summary and Observer report were subsequently compiled and shared with all attendees for fact checking prior to wider dissemination and website publication.

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Observers Report

Nomenclature

AI	Artificial intelligence
AKT	Applied knowledge test
ANP	Advanced nurse practitioner
BDA	British Dyslexia Association
CCT	Certificate of completion of training
EAL	English as another language
GMC	General Medical Council
IMGs	International medical graduates
MRCGP	Membership of the Royal College of General Practitioners
RCGP	Royal College of General Practitioners
SpLD	Specific learning difference or Specific learning disability (e.g. dyslexia)
ST 1/2/3	Specialist training (Year 1/2/3)
TPD	Training programme director
UKGs	UK graduates

Priorities

- Keep the language of the AKT simple but maintain use of medical terminology
- Prospectively teach topics where gaps in experience are predictable
- Improve RCGP pre-exam resources and their distribution
- Ensure the style of data interpretation questions are relevant to GPs
- Encourage support for groups with differential attainment without singling them out
- Fairness review meetings to rotate venues

Group members

- All had passed the AKT within the last five years.
- Were a mix of post-CCT and ST2/3
- Included GP trainers and a TPD
- Their motivations were universally to improve the exam and educational experience for future registrars.

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Group discussion after a differential attainment presentation and a review of paired AKT questions. What were the common themes?

How experience and exposure affect exam performance

The groups suggested that familiarity with conditions affects exam performance, and that exposure to clinical situations drives learning.

An increasing challenge for all registrars is delegation of activities to other team members. Examples included practical problems in elderly care (GP Registrars may lack care home experience), long-term conditions which require monitoring, and specific associated actions e.g. disease management plans (nursing teams and allied professionals often lead on these).

Participants discussed the importance of personal experiences. Responsibility for family illness (often the youngest and the oldest), experience of the NHS and/or of private health systems, and cultural attitudes towards care of older family members might drive wider knowledge acquisition. This might improve performance on questions relevant to these groups e.g. conditions that affect younger people or the elderly. It was suggested that UKGs and IMGs often have different personal and medical experience prior to GP training.

Participants suggested that where questions involved rare scenarios, IMGs may be at a greater disadvantage, especially if taking the exam in ST2. On the other hand, it was felt that questions testing evidence-based medicine and guidance might better suit IMGs, as they were likely to consult relevant sources more frequently to compensate for training gaps.

IMGs are more likely to change jobs and/or geographical areas, which broadens clinical experience. There are certain clinical areas where clinical experience may be advantageous for certain groups e.g. infectious diseases (IMGs), the menopause (UKGs). Although IMGs might have greater experience of private health care, generally the group members felt that UKGs benefited from experience and knowledge of the NHS, legal issues (e.g. safeguarding, capacity to consent) and public health (e.g. screening programs).

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How language complexity affects performance

Everyone who attended had been working for several years, or always, in the UK. Language nuances, however, may cause difficulty for those with EAL. It was discussed whether IMGs with EAL should have a reasonable adjustment of extra time, as per arrangements for those with SpLDs.

The groups supported the use of simple language and felt complex or long scenarios and questions led to differential performance. Candidates might skip these questions to avoid spending too much time for one mark. Group members preferred the use of positive rather than negative terms, which they thought could lead to misunderstanding.

They also highlighted some words that might be misinterpreted: ‘clumsy’, a colloquialism as well as having a medical use; ‘unique’, which has a very specific meaning that may not be clear to all; ‘elated’ when describing mood; and in one small group the word ‘reduced’ was preferred to ‘diminished’.

Group members specifically felt that question lead-ins should be clearly and simply phrased. Although they were concerned that complex scenarios lead to increased reading time and therefore difficulty in completing the AKT in a timely fashion, they felt that IMGs found medical jargon less ambiguous than colloquial or lay terminology.

Two-stage questions or multifactorial questions (e.g. scenario plus graph or table) created visual and comprehension complexity. In general group members felt these may disadvantage IMGs and those with a SpLD (although it should be noted that there was no DIF when comparing ‘SpLD to no SpLD’ on the reviewed item). In a couple of examples, they suggested that unused information in a table and text be removed. The table presented to the group was reproduced precisely as it appears on a website. However, they felt that absolute validity was less important than reduced visual complexity.

In looking at a series of questions we uncovered another dilemma. On the one hand questions that ask for an ‘initial’ action were adjudged to be tricky because several actions might be reasonable. Working out which action was most important was not always obvious. On the other hand, we discussed a multiple best answer question where candidates were asked to choose three actions. This avoided the need to choose an ‘initial’ action, but the complexity of a multiple best answer question was felt to potentially disadvantage IMGs and candidates with dyslexia. (Although again it should be noted that there was no DIF when comparing ‘SpLD to no SpLD’ on the reviewed item).

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How the style and type of questions affects performance

The current style of emboldening in questions was felt to be helpful for those with SpLD as it highlights keywords and follows BDA guidance. Group members highlighted that smaller fonts may be difficult to read – this may happen when charts and graphs are reproduced from external source documents.

Group members queried whether the AKT wanted to test specific knowledge contained in graphs and tables or whether the purpose was merely to check whether candidates could provide effective interpretation. They suggested that question/scenario development should be tailored to the skill it intended to test.

They suggested that pictorial styles should not just be familiar to UK clinicians (which favours UKGs) but include styles that are more universally applicable e.g. WHO data. This suggestion had already been incorporated with item writers including international data interpretation tables. However, on a further set of questions, group members questioned whether global health was relevant to a UK clinical exam.

Group members suggested that IMGs may manage better where they must deduce answers i.e. excluding options systematically to lead to the answer. On the other hand, they felt that they may also 'overthink' questions. In contrast, group members suggested that pattern recognition is embedded early in UKG medical school training, less so for IMGs.

'Doing nothing' appears to be a more difficult clinical concept for some IMGs, at least in an exam setting. It was suggested that non-UK exams generally do not test for the ability to identify normality. The groups also felt that in exams other than AKT, negatively marked MCQ-style exams, which are commoner outside the UK, it was psychologically more difficult to choose an answer which is 'normal'. Some also suggested that a previous experience of 'tricks' to catch the unwary in negatively marked MCQ exams. In consequence, to compensate, IMGs might look for hidden information and 'banana skin' options - another potential factor leading to overthinking AKT questions.

Most group members felt that it was helpful to include the phrase "According to national guidance". They considered that this prompted candidates to recollect specific guidelines. They also commented that they found NICE to often be simpler than CKS. It was also suggested that IMGs, through their previous training, are more likely to access sources of factual information, embrace rote learning, and to be aware of current guidance. It was also felt that they were more aware of normal laboratory values and their significance. However, where knowledge was applied, e.g. discussion or management of risk, this favoured UKGs

One group member said that if questions were difficult than it helped to switch to the end of the test and work back. As questions are now numbered randomly, it is however, unlikely that this strategy would now confer any benefit. Others mentioned that they may skip statistics questions but not factor in sufficient time to revisit them.

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How approaches to education and training could change

There was consensus that training schemes should help GP Registrars identify and address gaps in knowledge and experience. IMGs are less likely to have been taught or have experience in research and audit and have less knowledge of the NHS system. Although there appear to be specific themes, learning needs are individual, and group members wanted to avoid different groups being stigmatised.

The group members had differing experiences in their training. The groups wanted training to better focus on their needs relevant to the exam. This was suggested especially to fill the gaps in experience arising from different undergraduate and early postgraduate training, and those caused by delegation to other team members.

Four specific areas were highlighted during this discussion: safeguarding and mental health assessment, data interpretation, and evidence-based medicine.

The groups felt that data interpretation and medical statistics teaching should be improved. A mathematical background at 'A' level (or equivalent) is maybe more likely in UKGs. IMGs may find particular difficulty with questions about methodology and some statistical concepts e.g. confidence intervals.

The groups felt that courses should concentrate more on data interpretation and graphs (rather than technical statistics) in keeping with the emphasis in the exam. The RCGP, however, has limited ability to influence this as most courses are independently and commercially run. The group told us that they found that the variety and volume of commercial resources was overwhelming. They wanted the RCGP to provide greater resources and more feedback to trainers to help them to provide better targeted training.

The groups suggested that some of their clinical experience should include pre-chosen patient lists and/or restrictions on common conditions in their surgeries to ensure greater spread of practical knowledge acquisition.

Some IMGs may enter General Practice without experience of the UK NHS system, coming straight from overseas work rather than undertaking foundation training. The group members also told us that some GP Registrars were encouraged to take the AKT too early, and they felt this was unhelpful.

The groups emphasised the need for adequate study leave well in advance, and to avoid heavy workloads/on-call nights just before sitting the exam.

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Age and the implications for training and exam preparation

Older candidates, especially women, may have had more breaks in their training. As medicine is always moving forward, these candidates may need extra ‘catch up’ training.

IMGs are more often older than UKGs and potentially have more family responsibilities. This may reduce their available time for preparation and ability to pay for courses.

On the other hand, with age comes experience, in either a clinical context or medically-relevant personal experience.

Reasonable adjustments: differential attainment that we were unable to explain

Candidates with reasonable adjustments but no SpLD, e.g. extra time because of other disabilities, had differential attainment on a single question. It was unclear why this should have occurred, perhaps by chance? As the position of a question in the test is randomised it was unlikely to be due to not finishing in time.

Other points

Group members questioned whether a calculation advocated in national guidance reflected day-to-day practice.

They told us that they were unable to fully zoom in on pictures, although they could be enlarged within a pop-up screen.

The group members felt that the AKT includes ‘a lot of therapeutics’. On being informed that analyses showed this to be up to 30% they said it ‘felt like more’.

We discussed whether in future to move the Fairness review to another location after two consecutive meetings in London.

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Conclusions

- The group felt reassured that all the FR 2023 recommendations bar one, had already been acted on or progressed.
- Themes from this review were very similar to and emphasised the 2023 review findings, with further refinements suggested but no major differences
- All items from a year of exams showing significant differential attainment were discussed openly. There was full agreement that the content was appropriate to a UK primary care national licensing assessment i.e. no items to be suppressed, although ongoing care should continue to be taken to review the face validity of items
- Create ever clearer lead-ins, less 'busy' charts, and use clinical rather than (occasional) lay language
- This review was fully supportive of the 2024 AKT GMC submission for an increase in time per question
- Continue to test on data interpretation
- The group recommended an SCA fairness review.
- The AKT core group continue to seek adequate funding for further revision resource development, including via the use of AI
- Next Fairness Review
    - to consider recruiting a cohort of older candidates
    - to focus on differential attainment item themes which have been highlighted on more than one occasion, rather than spend time over-analysing a single item which showed mild DIF on one occasion for no obvious reason

AKT Core Group December 2024

Any comments, suggestions or feedback to:

exams@rcgp.org.uk

Please state 'AKT Fairness review 2024' in the email subject heading

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