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**Cyclical quality assurance of examinations is critical but causality needs to be attributed carefully**

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The author confirms that she has no conflicts of interest.

**Key words**

Assessment, quality assurance, study design

The work of Khafagy and colleagues, reported in this issue, is a reminder of the need to undertake quality assurance activities for high stakes examinations, including for the individual items that make up the examination. Quality assurance provides evidence to the candidates taking the examination, and to those who rely on its results, of its validity and reliability. It is also important for another, often forgotten, group of stakeholders: the item writers. The process of item writing – particularly multiple choice or single best answer questions such as those considered in Khafagy et al.'s study – is a challenging and labour intensive task. Comprehensive guides on item writing (1) and item development processes (2) generally overshadow the level of feedback provided to item writers and evidence-based, structured efforts to improve items prior to reuse. Item writers need such feedback to maximise the efficiency of the time they devote to item writing – time most of whom could instead spend providing patient care.

While basic quality assurance activities can be undertaken by a single psychometrician in a relatively short time frame, its results must be acted on, and, as described by Khafagy et al., the implications of such actions evaluated. There are relatively few publications describing this full quality assurance cycle, possibly because those responsible for high stakes examinations are not willing to air their dirty laundry. Such work should however be encouraged to provide an “epidemiology” of problematic items and identify which interventions are most effective in improving item performance in subsequent examination diets.

Quality assurance is not the same as research, yet the challenges of demonstrating causality within the ‘evaluating change’ component of a quality assurance cycle should not be ignored. The strength of the evidence that the action taken led to the observed change in outcomes (in this case, in item performance) is only equivalent to that generated from an uncontrolled before and after study (3). Such evidence of causality is further limited in the application described by Khafagy et al. since the item performance data used to monitor effectiveness were analysed using classical test theory, making it impossible to separate out the individual effects of cohort and changes made to the items (4). For example, the increase in item difficulty observed could be due to a generally weaker cohort taking the later diet of the examination rather than genuinely more difficult items being used. Item response theory provides a methodological solution and should therefore be considered when undertaking quality assurance cycles; a further benefit is that it also provides a mechanism for helping to ensure an equivalent passing standard is applied across diets, enhancing the fairness of the examination. But neither approach dispenses with the need for well-trained item writers who are provided with the means to improve their item writing, just as they are provided with patient and clinical feedback to help them improve the quality of the care they provide.

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