

**Briefing Note:**

Using Resident Self-Assessment in CBME Assessment Programs

# **Introduction**

The purpose of this document is to provide background a recommendation from the Best Practices in Evaluation and Assessment (BPEA) Working Group to PGMEAC regarding the use of resident self-assessment data in resident assessment.

# Background

There has been considerable research into the ability of individuals to conduct self-assessments in both medical education and broader.

The first consideration in looking at self-assessment is to be clear on the definition of the key words. It has also been noted that there is a difference between self-assessment (which is considered to be an ability), self-directed assessment seeking and reflection (which is a pedagogical strategy), and self monitoring (which considers “contextually relevant responses to environmental stimuli”) [1].

***Self-assessment, as a personal, unguided, reflection on performance, aimed at determining one’s own level of knowledge, skill or understanding, does not appear to work.*** Self-assessment is poor, not just among health professionals but among the population at large (e.g. well over 70% of drivers have rated themselves as “above average” [2, 3]).

One of the early works in this area determined that not only are individuals not able to self-assess accurately, but those in the bottom quartile of tests of humour, grammar, and logic, were far more likely to grossly overestimate their test performance and ability [4]. In some cases, individuals in this study were in the 12th percentile by test score, but estimated themselves to be in the 62nd percentile. The inability to accurately self-assess was linked to deficits in metacognition, so these individuals could not distinguish accuracy from error. This trend has been replicated in the medical field [5, 6].

Research that had been conducted within the medical field was examined in a systematic review [7]. This review was designed “to determine how accurately physicians self-assess compared with external observations of their competence.” The findings were that the majority of the evidence identified suggests that physicians have a limited ability to self-assess. Again, a number of the studies found that those who were the least skilled had the worst accuracy in their self-assessments, as did those who were the most confident. The authors conclude by saying that there may need to be more external assessment. Well before this review it was suggested that self-assessment should involve peers, teachers, or other sources of information [8].

Self-monitoring is a different aspect of this topic***. Self-monitoring has been described as “slowing down when one should” and “knowing when to look it up”*** [1]. This is recognizing weaknesses *in the moment* and addressing them, which is distinct from a broader self-conception of one’s competence.

Research has since been conducted to determine how learners and physicians use external information to inform their self-assessment [9]. This study examined undergraduate medical students, postgraduate learners, and practicing physicians, in eight programs over 5 countries. The results indicated that ***informed self-assessment appeared to be a flexible and dynamic process***. It included accessing and interpreting various external and internal data sources and responding to the findings.

Through this research a conceptual model of informed self-assessment emerged. ***Certain experiences can promote self-assessment***. A recent study assigned residents to perform reviews of outpatient charts to determine if there had been appropriate documentation and follow-up of lab results [10]. One group conducted only a self-review, a second group conducted only a peer review, and the third group conducted a self- and a peer-review of charts.

Self-review was not associated with significant improvements in practice, nor was the peer-review group. However, those who performed both the self-review *and* the peer review demonstrated significant improvements in their documentation practices. This would support the previous discussion that individuals are not able to accurately self-assess, and that this may be linked to deficits in metacognition [4]. So, the residents in the self-assessment only group did not see problems with their documentation, and those in the peer-assessment only group also did not see any problems with documentation, however ***those who could see both theirs and another chart were provided with more data with which to interpret both their and their peer’s charting.*** So, these individuals were assisted in distinguishing the quality of records.

In another study with internationally educated pharmacy graduates, across all performance quartiles on an 8-station OSCE, there was a difference between self-assessment of clinical performance [11]. As with previously discussed studies, this was the largest in the lowest quartiles, suggesting again that the ***impairment of self-assessment may be most notable in those who are the weakest in their skills***.

# **Discussion**

Given the issues with self-assessment, as described above, using a self-assessment approach to collecting data on resident knowledge or skills would not fit with the literature on the accuracy of this type of data.

However, using ***resident self-report of verifiable data could be used.*** In this situation the residents are providing data, not self-assessment reports. This could include logs of

cases completed, conditions seen, etc. This could identify that the resident is well behind their peers (e.g. seeing only two patients a morning rather than 6) or ahead of their peers (completing 10 procedures when others have completed only 5), or in line with their peers. This information may be useful in determining the readiness of the resident to proceed to the next stage/level of their education.

Appendix – DRAFT Guidelines for the Use of Self-Assessment Data in Assessment of Residents



**PGME Guidelines for the use of Resident Self-Assessment in CBME Assessment Programs**

1. This guidelines uses these definitions:
   1. ***Self assessment is*** an unguided reflection on one’s performance in order to generate an understanding of one’s own level of knowledge, skill, and abilities. [1]
   2. ***Guided self assessment*** is where an individual explicitly seeks feedback from external sources, and then uses this externally generated assessment data to direct them in determining performance improvement opportunities [1].
   3. ***Self-report*** is where a resident provides a summary of specific activities (e.g. a log of procedures) and this log can be verified by examining other sources (e.g. medical records).
2. Guided self assessment is an important skill to develop in residency education by providing opportunities for residents to self-assess and then have their perspective put in context (e.g. by comparing the individual’s log to similar results of peers at the same level, or by discussing a self-assessment with an assessor who can point out the areas where the self-report is accurate and areas where it is not accurate).
3. Self assessment tools are not appropriate for inclusion in a decision-making process (e.g. as data for consideration by a Competence Committee).
4. Self-report tools are appropriate for inclusion in a decision-making process (e.g. as data for consideration by a Competence Committee).
5. Assessment tools can be designed to be initiated by the learner (e.g. Learner: *“Can you assess me on “X” today as that is an EPA that I have been working on?*”) or by the faculty member (i.e. Faculty: “*There is a patient visit today that we can use to assess you on “Y”. Ok?)*

# References

1. Eva, K.W. and G. Regehr, *I'll never play professional football - and other fallacies of self-assessment.* Journal of Continuing Education in the Health Professions, 2008. **28**(14-19).

2. Roy, M.M. and M.J. Liersch, *I Am a Better Driver Than You Think: Examining Self Enhancement for Driving Ability*, in *Journal of Applied Social Psychology*. 2013.

3. Svenson, O., *Are we all less risky and more skillful than our fellow drivers?* Acta Psychologica, 1981. **47**(2): p. 143-148.

4. Kruger, J. and D. Dunning, *Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments.* Journal of Personality and Social Psychology, 1999. **77**(6): p. 1121-1134.

5. Pandey, V.A., et al., *Self-assessment of technical skill in surgery: the need for expert feedback.* Annals of the Royal College of Surgeons of England, 2008. **90**(4): p. 286-290.

6. Parker, R.W., C. Alford, and C. Passmore, *Can family medicine residents predict their performance on the in-training examination?* Family Medicine, 2004. **36**(10): p. 705.

7. Davis, D.A., et al., *Accuracy of physician self-assessment compared with observed measures of competence.* JAMA, 2006. **296**(9): p. 1094-1102.

8. Boud, D., *Avoiding the traps: seeking good practice in the use of self assessment and reflection in professional courses.* Social Work Education, 1999. **18**(2): p. 121-132.

9. Sargeant, J., et al., *The Processes and Dimensions of Informed Self-Assessment: A Conceptual Model.* Academic Medicine, 2010. **85**: p. 1212-1220.

10. Hale, A.J., et al., *The effects of resident peer- and self-chart review on outpatient laboratory result follow-up.* Academic Medicine, 2016. **91**(5): p. 717-722.

11. Austin, Z., P.A. Gregory, and M. Galli, *"I just don't know what I'm supposed to know": Evauating self-assessment skills of international pharmacy graduates in Canada.* Research in social and Administrative Pharmacy, 2008. **4**: p. 115-124.