



Standard Setting Process

American Board of Genetic Counseling (ABGC) conducts a standard setting process after the development of a new exam, using methods that objectively facilitated the criterion-referenced nature of credentialing decisions, based on a method described by Angoff (1971).

The study results are used to guide selection of a passing standard. As with any professional practice standard setting process, some type of judgment is required. However, it is essential that the judgments involved in determining the passing point be made by qualified experts who are well informed regarding the intended use of the examination and possess the requisite knowledge and experience in the content domain to know what level of competence should be reasonably expected.

Additionally, the judgments should be rendered in a meaningful way that accounts for the format and purpose of the test. This determination must be made with recognition of the effects of potential error on classification decisions and the negative consequences of possible misclassification for examinees and the public.

The underlying philosophy of the Angoff procedure is that the standard set relates to expectations of performance for those who are minimally competent (i.e., those with the requisite capabilities commensurate with the eligibility requirements). Therefore, this procedure requires judges to render an expected performance rating for each test item that reflects their expectation of performance for those who are minimally competent.

Methodology

The judges serving on the standard setting study panel are selected by ABGC, all of whom were deemed to possess subject matter expertise. They were selected to provide an appropriate balance on potentially relevant professional characteristics, such as area of special expertise, practice setting, and geographical distribution.

During a specified meeting, the judges participate in a standard setting study that consists of the following three major steps:

1. Definition of Minimum Competence
2. Rating of Examination Items

3. Consideration of Empirical Data

Judges engaged in an introductory presentation on the process that describes the standard setting activity and explains their role in the process.

Definition of Minimum Competence

In preparation of the rating process, a discussion regarding the definition of a minimally competent practitioner (MCP) was facilitated. An MCP is described as an individual who has enough knowledge to practice safely and competently but does not demonstrate the knowledge level to be considered an expert.

The judges discussed specific behaviors, or performance-level descriptors (PLDs), that someone with the requisite education and training would do to demonstrate his or her competence. Judges were instructed on the following four principles to help guide their identification of PLDs: 1) not something that they know, 2) not something that they do not do, 3) not what an expert would do, and 4) specific actions performed that demonstrate competence.

The judges were asked to identify at least three or four PLDs per content domain to ensure an adequate representation of the role. Judges suggested ideas for PLDs, and the panel deliberated and refined the wording until there was consensus. The PLDs developed are listed in the Appendix.

Rating of Examination Items

Judges were then trained in the rating process. Central to this process is the notion that each rating is provided individually by each rater and reflects the answer to this question: What percentage of MCPs do you expect will answer this item correctly? The judges were shown each item one at a time and instructed to provide a rating for each item (round one rating) after reading the stem and the response options. Judges then recorded their ratings in a spreadsheet.

Consideration of Empirical Data

Following the initial rating for each item, the answer key and p-value were presented so that the judges could re-evaluate their thought process and revise their ratings (round two ratings). For example, the judges are specifically advised to consider the possibility that their ratings might be too high on items that they answered incorrectly when the initial ratings were recorded or if their expectations of performance for MCPs were significantly different from the p-value, which represents the performance of a sample of examinees who represent all levels of competency and performance.

Judges then recorded their round two ratings in the same spreadsheet. Ratings are then collected from the raters, and items for which the average rating was higher than the p-value by five points or more were identified as well as those in which the highest and lowest ratings differed by forty points or more. The judges discussed these items to determine why their expectations differed significantly from the difficulty for all examinees or from each other. All raters are then given the opportunity to revise their ratings (round three ratings) for the subset of items identified, following this discussion.

Established Passing Standard

The results of the study are presented to the ABGC Board of Directors for approval. Then used to score the CGC exam.

Appendix

Definition of Minimum Competence

1. Clinical Information, Human Development, and Genetic Conditions

- a. Provide accurate information to patients.
- b. Identify whether and what genetic testing is relevant.
- c. Identify relevant factors of patients' conditions as pertinent positives and negatives.
- d. Define diagnostic criteria for common genetic disorders, select appropriate genetic testing based on clinical presentations.

2. Risk Assessment and Principles of Human Genetics and Genomics

- a. Recognize inheritance pattern based on the pedigree construction.
- b. Determine the odds/risks of genetic contributions to disease.
- c. Identify salient factors that contribute to risk assessment.

3. Testing Interpretation, Testing Options, and Reproductive Risk Management

- a. Identify the most appropriate testing methodology based on the patient's presentation.
- b. Interpreting results of methodology.
- c. Recognize the limitations of the initial test.
- d. Identify the need for additional testing.

4. Counseling Skills, Communication, and Education

- a. Eliciting patient understanding of concepts presented.
- b. Facilitate informed decision making for patients based on available test results and options.
- c. Discern patient needs and adapt counseling approach.

5. Financial/Reimbursement Issues, Resources and Services for Clients, Legal and Regulatory Requirements, and Professional Frameworks

- a. Recognize ethical dilemmas and when to bring in other team members/resources.

b. Adhere to the ethical frameworks, laws, and regulations that define the scope of practice for genetic counselors.

c. Advocate for patients in the financial and billing process.

d. Demonstrate understanding of current human genetics research and conducting genetic research ethically.