According to ABR psychometric statistics, as well as feedback from an exit survey of test takers, the Core Examination has improved between the 2013 and 2014 test cycles. To make this better quality possible, the examination development process embraces the principles of the Plan-Do-Study-Act (PDSA) cycle. The purpose of this report is to give the reader an inside look at examination development and how data and feedback are used to improve the performance of the exam.

The process of developing any given ABR examination is carried out by volunteers and is very thoughtfully planned and executed. The steps to examination development are as follows:

1. **Plan—Item Writing:** Volunteers form committees assigned to perform the task of exam question writing for the various categories on ABR exams. The volunteers serve for three to six years in this role. Exam question writers are provided training on item writing that includes the “do’s and don’ts” of developing a well-performing test question. Writing a single ideal test question takes up to 30 minutes! The volunteers then participate in reviewing submitted items with other members of the category committee during a webinar on nearly a monthly basis. Questions are accepted, revised, or rejected based on feedback during this webinar conference. Each accepted question is placed in a database and tagged as to its modality, disease category, and exam-level appropriateness.

2. **Plan and Do—Module Development:** Each category has a blueprint of how its questions should be distributed, based on modality and disease category. The purpose of the blueprint is to ensure that the module developed provides a broad assessment of the category and to prevent overemphasis on any particular category. The blueprints for each category are available for review at
Questions from the database are then added to fill the module grid, and this provides another opportunity for item review and revision.

3. **Do—Test Assembly Meeting:** Each category module is then assembled to create the entire form for an examination. At the time of the test assembly meeting, every single test item is reviewed by a panel meeting in Tucson, which includes a senior representative of each category’s item-writing committee, an exam content editor, and exam development employees of the ABR. Each test item is reviewed for quality, and panel members outside the respective specialty or subspecialty provide valuable feedback regarding the appropriateness of the question. Items are approved, revised, or rejected by the panel members.

4. **Study—Post-exam Assessment:** Following the administration of an examination, the quality of item writing is evaluated in two different ways. First, item performance is assessed psychometrically to determine how difficult the item was and whether it separated candidates who passed or failed the examination. Second, all examinees are given the opportunity to complete a survey to provide feedback about whether the items in every category were clinically relevant and level appropriate.

5. **Act—Feedback to Item-writing Committees:** Valuable feedback regarding the performance of specific items is then provided to each category’s item-writing committee. These data are used to improve the quality of item writing. The cycle then continues.

The outcome of this **Plan-Do-Study-Act cycle** has led to data-driven improvement in the quality of the Core Examination between the first administration in 2013 and the second test in 2014. Happily, the number of suboptimal-performing questions decreased, and overall examinee satisfaction improved between the two examinations. The data, however, show that there is room for further improvement. This knowledge will add to the continuous effort of perfecting the Core Examination and will allow the ABR to best achieve its stated mission of protecting the public.