

# **When Numbers are Not Enough: Collection and Use of Collateral Information and Evidence to Assess the Ethics and/or Professionalism of Examinees Suspected of Test Fraud**

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## **Introduction**

This paper and presentation will provide an overview of methods to identify, collect and preserve information and evidence, collateral to exam results, for the purpose of identifying examinees whose conduct falls short of the test sponsor's standards for ethics, character and professionalism. As an overview, the author could not thoroughly address, in detail, *all* of the potential sources of collateral evidence a test sponsor may collect or provide examples of the utility of every type of collateral evidence identified herein. The paper is therefore intended as starting point to consider these issues and, through the use of the hypothetical investigation scenarios described herein, to promote discussion among professionals in the testing community about best practices for identifying, collecting and preserving collateral evidence of test fraud.

## **The Need to Collect Evidence Collateral to Exam Results**

There appears to be consensus within the test sponsor community that the detection and investigation of cheating should be primarily focused on the reliability of the test results, not the character of the examinees. In other words,

test sponsors should only be concerned with determining whether there is something about an examinee's test result that makes it an unreliable measure of the examinee's knowledge on the subject matter of the test. In this way, the test sponsor is not concerned with making any judgment on the ethics, morality or character of the examinee, or proving that the examinee engaged in any specific wrongful conduct that enabled him or her to achieve the unreliable score. Indeed, reliable evidence of test fraud derived entirely from exam results (i.e., unusual gains, unusual answer similarities, wrong to right answer changes and score aberrance), *can* provide a test sponsor with a sufficient basis to cancel an examinee's score.

However, this “just the stats ma’am” approach does not serve the needs of all test sponsors. Some exam sponsors prefer to obtain and analyze information outside of the test results (“collateral evidence”) prior to taking any action with respect to an examinee suspected of cheating or test fraud. This is especially true where ethics, good character and professionalism are essential components of the core values of the testing organization and necessary qualifications for the examinee to obtain or maintain the credential sought.

Test sponsors that necessarily place a high value on the ethics, good character and professionalism of their examinees include, but are not limited to, medical specialty certifying boards, financial industry regulators and certification organizations, professional licensing agencies and educational organizations that administer examinations for admission to graduate and professional degree programs. Over the past several years, many such test sponsors have become

more outspoken in reminding examinees that the ethics, character and professionalism components of their credentials apply to their examinations. For example, the American Board of Medical Specialties, which represents 24 medical specialty boards, posted the following statement on its website in 2012:

Patients and their families place enormous trust in physicians and other medical professionals. This trust must be continuously earned and cultivated. As the gold standard among medical credentials, Certification by one of the 24 Member Boards of the American Board of Medical Specialties (ABMS) is an indicator of quality and professionalism that patients and their families have come to rely on.

Upholding public trust is one reason ABMS takes exam security very seriously. Secure exams are one important step in the lifelong ABMS-led learning process that ensures certified physicians meet high standards for the knowledge and skills they bring to their patients.

Exam security and meaningful certification require multi-faceted approaches that include continuous improvement and vigilance. ABMS supports its 24 Member Boards as they assure the highest quality exam security through:

- Identifying cheating with the latest monitoring technologies;
- Routinely changing test questions;
- Strengthening the security of testing sites;
- Auditing exam security, and
- Designing a rigorous certification process

It should be made abundantly clear that recalling and sharing questions from exams violates exam security, professional ethics, and patient trust in the medical profession. When it happens, the practice should be addressed swiftly and decisively. Whether someone is providing or using test questions, ABMS Member Boards enforce sanctions that may include permanent barring from certification, and/or prosecution for copyright violation.

Physicians who rely on recalled questions to prepare for certification exams should know that doing so not only violates the policies of the ABMS Member Boards but utilizing recalled

questions is an unreliable way to prepare for such exams. Member Boards routinely change test questions, and a high percentage of shared questions and answers are recalled incorrectly. In contrast, ABMS Member Boards are offering more ways to help residents legitimately and ethically prepare for exams.

The public should also feel assured that certification requires more than passing a single exam. In fact, every ABMS Member Board now requires physicians to demonstrate their knowledge, skills, professionalism and ethics throughout their careers to maintain their certification.

[http://www.abms.org/News\\_and\\_Events/Media\\_Newsroom/features/feature\\_ABMSStatementOnExamSecurity\\_01132012.aspx](http://www.abms.org/News_and_Events/Media_Newsroom/features/feature_ABMSStatementOnExamSecurity_01132012.aspx)

In light of the foregoing statement by the ABMS, it would make sense that merely cancelling an examinee's score in response to a statistical analysis finding probable test fraud would not be sufficient to uphold the organization's values. It would be a matter of great importance to an ABMS member board to determine whether there is something about the examinee's conduct in relation to the exam that suggests that he or she lacks the ethics, good character or professionalism to become a board certified physician or to maintain board certification.

Thus, in situations where a test sponsor detects potential or likely test fraud based upon data derived entirely from exam results, it is critical to such test sponsors to determine not only whether an examinee's score is not a reliable measure of the person's true knowledge of the subject matter tested, but also whether the person engaged in conduct that fails to meet the high standards of ethics, character and professionalism required by the test sponsor. In cases such as this, the test sponsor must identify, collect and preserve reliable collateral evidence in order to determine whether an examinee has personally engaged in

conduct that falls short of the ethics, character or professionalism required by the sponsoring organization. To simply declare an examinee's score "invalid" and allow an examinee to retest after the test sponsor has detected score aberrance indicating likely test fraud would do little to uphold a core value of the testing organization.

### **Collection and Retention of Collateral Evidence as Part of the Test Sponsor's Vertically Integrated Exam Integrity Program**

The author must assume for purposes of this paper that the test sponsor has already designed and implemented a comprehensive and effective exam integrity program that is vertically integrated into all components of the test sponsor's organization. A central element of an effective exam integrity program is a comprehensive examinee agreement that clearly states the rights and responsibilities of the test sponsor and the examinee. Indeed, an examinee agreement is one of the most important building blocks of an effective test fraud investigation. Boiled down to its essential elements, an effective examinee agreement must clearly establish (1) permissible and impermissible examinee conduct prior to, during and after the exam, (2) the right of the test sponsor to use statistical data analyses and other methods to detect cheating, (3) the right of the test sponsor to further investigate score aberrance and any suspected breaches of exam integrity, (4) the obligation of examinees to cooperate in any investigation by the test sponsor and (5) the potential consequences of a finding of score invalidity and/or any violation of the examinee agreement and the organizational process for determining and imposing such consequences.

Vigorously adhering to a comprehensive exam integrity program and enforcing the terms of the test sponsor's examinee agreement will ensure that the test sponsor is employing all reasonable measures available to prevent and detect test fraud, including but not limited to, statistical data analyses. Indeed, it is presumed that the results of such data analyses by a test sponsor could serve as the starting point for the investigation strategies set forth in this paper.

### **Three Distinct Time Periods to Collect Evidence**

For every examination, there are three distinct time periods when a test sponsor can identify, collect and preserve collateral evidence that may become relevant to an investigation of the examinee's conduct with respect to an exam: before, during and after the exam. Each of these time periods offers an opportunity to collect different types of collateral evidence that a test sponsor may find critical when conducting an investigation.

While it may be helpful to identify and collect collateral evidence *in response to* the detection of possible test fraud, it is not nearly as effective as implementing procedures that automatically provide for the collection of such evidence as part of the test sponsor's exam registration and administration processes. By integrating and automating the collection of collateral information in this way, the test sponsor will collect a myriad of useful evidence that investigators can immediately utilize following a statistical finding suggesting that the examinee's score is not valid.

Finally, it must be acknowledged that not all test sponsors have exam registration systems or administration practices that enable the collection of all of the suggested collateral evidence. From an evidence collection perspective, there are obviously significant advantages to computer-based testing, however, much of the collateral evidence identified herein can be collected and retained even for paper-based exam administrations.

### **Before the Exam**

Before the exam, test sponsors must collect biographical, personal and transactional information about the candidate that will enable them to analyze the examinee's score in a meaningful context if the examinee is suspected of test fraud or aberrance is later detected in the examinee's test score. Basic information that must be collected and retained by all test sponsors concerned about the ethics, character and professionalism of their examinees should include the following, ***at a minimum***:

1. name, alias and all prior names
2. date and place of birth
3. social security number
4. current color photograph of the examinee
5. color copy of driver's license and/or passport
6. present physical address, address history for a period of at least 3 years
7. all email addresses presently and previously used by the examinee

8. educational history, including but not limited to academic achievement at each institution
9. prior standardized examinations taken and scores achieved
10. professional licenses held
11. employment history for a period of at least 3 years
12. prior criminal and disciplinary history, including any history of academic dishonesty
13. identification of family members who have taken or registered to take the same examination and the dates of those examinations
14. exam score history for the exam at issue
15. complete registration and cancellation history for the exam at issue
16. exam score history for all practice examinations taken by the examinee
17. payment information for all methods of payments to the test sponsor
18. test center selection(s) and proximity to current residence

Each of the above pieces of examinee information, although collateral to the exam results, may be useful in its own right to the test sponsor for a variety of purposes. However, the information will become even more valuable if the test sponsor is searching for collateral evidence of test fraud following a determination of aberrance in the examinee's score or some other reason to suspect cheating. The test sponsor should also require the examinee to submit changes and additions to all of the above information following its initial submission.



The collection of a current photograph and valid driver's license or passport copy as early as possible in the registration process is a defensive measure designed to discourage the use of a proxy by an examinee. Particularly where the examinee is required to produce a valid driver's license and have her photograph taken on the day of the examination, which may be several weeks or even months after having submitted the photograph and driver's license for registration, proxy schemes are much less likely to succeed. If however, the examinee is able to produce her driver's license or passport for the first time on the day of the exam, and she has never previously tested or submitted a photograph, finger print or palm vein scan to the test sponsor, any person, using a fake identification, could present herself at the test center as the examinee. The test sponsor's collection and retention of examinee photographs and identifications submitted at the time of registration is therefore critical to enable the test sponsor to compare exam day photographs and identifications presented by examinees.

### **During the Exam**

During the exam, there are numerous opportunities to collect collateral evidence of an examinee's conduct that may assist a test sponsor if the examinee is suspected of test fraud or aberrance is later detected in the examinee's test score. To begin with, the test sponsor should use an exam day admittance process designed not only to verify the examinee's identity but also to collect collateral evidence. In order to gain admittance to an exam, the examinee

should be required to present the same valid driver's license, passport or other official government identification that was submitted at the time of registration. The identification should be scanned and copied and the person's photograph should be taken. In addition, either a palm vein scan or fingerprint should be taken for comparison and re-admittance to the exam following breaks. The entire exam admittance and screening process should be audio and video recorded. Finally, the examinee should be required to sign her name when first admitted and for re-admittance after each break.

Examinees must be required to empty their pockets, take off all outerwear (i.e., jackets, sweaters, sweat shirts, hats, scarves, etc.) and deposit all of their personal belongings, including all electronic devices, into a locker outside of the screened entry area. The locker area itself should be under constant video and audio surveillance. Each examinee should be asked to pull his pockets inside out to show that they are empty and, where permissible, examinees should be checked with a metal detecting wand. A seating chart should be maintained for all examinees in the testing room. If the exam is being administered at the same time as other exams of a shorter duration, and the people taking the other exams will change through the course of the exam at issue, the seating chart should be updated for each time frame when changes occur. As alluded to above, examinees should be required to sign out for each break and subjected to the identical identification, biometric and physical screening before re-admittance following each break. This is another measure designed to defeat the substitution of an examinee with a proxy following a break. If an examinee cannot

establish a biometric match upon return from a break, the proctor must take action to establish and confirm the identity of the examinee, or simply terminate the exam, depending upon the sponsor's policies.

In addition, examinees should be video and audio taped while taking their exam and proctors should observe examinees 100% of the time that they are taking their exam. The proctor must immediately investigate any unusual behavior or observed communication by examinees. Unusual behavior can range from talking to another examinee, to pulling a piece of paper out of a pocket, tapping on a desk, or frequently leaving the testing room to go to the bathroom. These and any other unusual behaviors must be immediately investigated, recorded and reported to the test sponsor.

If a proctor or another examinee observes unusual conduct or testing rule violations, the test sponsor has a limited amount of time within which to conduct a truncated investigation that may prove critical in determining whether the examinee engaged in intentional misconduct for the purpose of gaining or assisting another person in gaining an unearned advantage on the exam. There is certainly room for debate concerning the most effective means of accomplishing such a truncated investigation in the middle of an exam. Indeed, some test sponsors may be flatly opposed to interrupting an exam for purposes of such an investigation. However, an investigation undertaken within moments of the potential misconduct can be incredibly effective in distinguishing between intentional misconduct and mere negligence in following the exam rules by the examinee.

For instance, consider a scenario where a test sponsor's rules prohibit examinees from accessing or using a mobile phone for the entire duration of an exam, including during breaks (all test sponsors should have such a rule!). For purposes of this hypothetical scenario, a proctor observed an examinee take her mobile phone out of her locker and walk out the front door of the test center. In a circumstance such as this, the proctor would stop the clock on the examination for that examinee. The proctor would then contact the test sponsor to report the incident and get further guidance on how to proceed before re-admitting the examinee to resume her exam. This author would advise the proctor to place the examinee on a telephone call with the test sponsor's exam security investigator, who should, after reminding the examinee of the agreement she entered and the rules against accessing and/or using a mobile phone during the exam, ask whether the examinee accessed prohibited materials (including the internet), communicated with anyone and, if so, who the examinee communicated with, why she did so and to describe the subject of the communications. The investigator should further ask for the name and telephone number of the person with whom the examinee communicated with and advise that a proctor is going to inspect the mobile device for evidence of online activity, calls and texts within the time frame of the exam. Then the investigator should have the proctor look at the mobile phone to inspect it for these purposes and verify the information provided by the examinee. The proctor should take digital photographs of the mobile phone displaying the relevant screens (i.e., web browser pages, call history and text messages) to ensure that the evidence is preserved. If the exam is a paper

and pencil examination, the answer sheet and any allowed scrap paper should be photocopied in its current state before allowing the examinee to re-enter the exam. This entire process should take less than fifteen (15) minutes.

Continuing with the hypothetical scenario, if the examinee explains that she was concerned because she had a sick child in another person's care during the exam and wanted to check on the health of the child and the information provided regarding the person with whom she communicated is consistent with what is found in the phone, and there is no evidence of internet usage or inappropriate text messages, a test sponsor may decide to allow such a person to resume the exam. If the examinee refuses to cooperate with any of the above-described steps or provides information about her use of the mobile device that is inconsistent with the evidence found during the inspection of the device, the test sponsor may simply advise the proctor to terminate the exam. However, even under the latter circumstances, experience militates in favor of allowing the examinee to complete the exam so that the test sponsor can analyze the examinee's answer patterns following re-admittance to the exam, to determine whether the data further corroborates or disproves the evidence gathered in the mid-exam investigation. Thus, if the examinee returns to the exam following the above described scenario and changes numerous answers from wrong to right, or speeds through the balance of the exam and obtains an unusually high percentage of correct answers in comparison to the first part of the exam, the test sponsor then has collateral evidence that, in combination with the statistics paints

a clear picture that the examinee engaged in intentional misconduct for the purpose of achieving an unearned advantage on the exam.

The above hypothetical scenario is only one of many scenarios that can develop in the middle of an examination where a brief interruption of the examination for purposes of conducting a limited investigation can prove invaluable. Furthermore, this example illustrates the necessity of collecting and preserving collateral evidence to add value to statistical evidence that, while meaningful in its own right, does not provide the test sponsor with evidence regarding the ethics, character or professionalism of the examinee.

### **After the Exam**

Gathering meaningful collateral evidence of test fraud after an exam administration is already completed is one of the most challenging aspects of any test fraud investigation. It is for this reason that test sponsors would be wise to implement robust measures to prevent and detect cheating prior to and during the exam. Indeed, the collateral evidence collected and retained by the test sponsor prior to and during the exam can be immensely helpful to the investigator who begins an exam integrity investigation after the exam is already completed.

For example, if statistical analysis of an examinee's score suggests the possibility or likelihood of cheating based on answer similarity, the test sponsor should be able to quickly determine if there is another examinee in the test sponsor's database with the same physical address or email address, same

payment information (i.e., used the same credit card as another examinee), or who attended the same educational institution during the same time frame as the examinee or works for the same employer. Additional collateral evidence that the test sponsor should gather under this scenario includes a complete review and analysis of all social networking sites of which the examinee is a member, including Facebook, Twitter and LinkedIn. The value of social networks as an investigative tool cannot be understated in the context of an exam integrity investigation. To the extent the examinee shares any part of his or her social networking profiles publicly, the test sponsor can determine whether any of the people to whom the examinee is linked also took the exam and, if so, analyze that person's exam results for evidence of collusion.

In addition, the test sponsor investigating test fraud will want to view the video recording and listen to the audio recording of the exam, check in and the locker areas to see if the proctor might have missed any unusual behavior during the exam. The break schedule is another important piece of evidence because of the examinee's response conduct following breaks. Did the examinee return to the exam following a long break and change a series of answers from wrong to right, or quickly answer some of the most difficult questions after taking a longer amount of time before the break to answer easier questions?

Another important and productive method of gathering evidence following the exam is conducting interviews. The test sponsor's investigator should certainly interview any proctor or other person who observed the examinee's unusual behavior during the exam. But of paramount importance in a test fraud

investigation is the interview of the examinee. The interview of an examinee suspected of test fraud should usually be one of the last steps in the investigation, so that the test sponsor has the opportunity to conduct the interview with the benefit of all available evidence and to ultimately confront the examinee and request that she explain the evidence.

All examinee interviews should be conducted in person, so that the investigator can evaluate the credibility of the examinee based upon non-verbal cues and body language. In addition, a second person should always be present as a witness for the interview. Although a recording device can be used in place of a witness (with the consent of the examinee), recording devices may reduce the examinee's comfort level, chill the discussion and could create legal issues because the recorded statement of the examinee would have to be turned over in discovery in any subsequent lawsuit that relates to the matter under investigation. Depending on what the examinee says during the interview, the test sponsor may or may not want the verbatim recording of it made part of discovery in litigation. The problem is that the test sponsor would not be able to make that evaluation until well after the recording was made. That is why the author generally advises clients to conduct investigative interviews with a witness rather than using a recording device.

In interviewing the examinee, the investigator should remind the examinee of her obligations under the examinee agreement, including (hopefully) the requirement that the examinee cooperate in the test sponsor's investigation. The investigator should ask a series of background questions to which the answers



are already known to the test sponsor, to establish a baseline for the examinee's veracity. During the interview, the investigator should ask questions that relate to all relevant evidence obtained prior to the interview. For example, continuing with the hypothetical example of the examinee's test result showing statistical evidence of collusion, the investigator should ask about how the examinee prepared for the exam, including identifying all prep courses and prep materials used to study for the exam, and the sources of those materials. The investigator should ask about the examinee's colleagues, classmates, family members and friends to determine whether any of them either previously took the exam or took it at the same time or in close proximity to her exam. If any of them did, the investigator should ask about how each of them prepared for the exam. The investigator should also ask in detail about the events on the day of the exam, including asking about what she did before and after the exam, and whom she saw and spoke to throughout the entire day. There may be many other areas of inquiry during the interview, depending on the nature of the existing evidence.

By the conclusion of the interview, the examinee should be asked to explain each piece of evidence that could indicate that she engaged in intentional conduct to obtain an unearned advantage on the exam. Finally, the investigator should ask the examinee to produce relevant documents and other evidence that relate to the investigation and the issues discussed during the interview. For example, if the examinee has a record of poor academic achievement in college, but obtained a very high score on her first attempt at the exam in question, the examinee should be asked to explain that. If she explains that she had a parent

suffering from cancer throughout her college career and that she was the only family member caring for her parent while she was also in school, the investigator should respectfully request documentary evidence to support that.

Furthermore, any mention by the examinee of email or text communications would require the investigator to follow up by requesting evidence of those communications. If, for example, the examinee tells the interviewer that she participated in a study group and that a member of the group circulated an email with a study outline attached, the investigator should have the examinee access her email account during or at the conclusion of the interview, in the presence of the investigator, and forward the relevant email(s) and attachment(s) to the investigator. Indeed, if there is any indication of multiple emails relating to examination prep, the investigator inspect and search her email account and direct her to forward each and every email that the investigator deems relevant. If the examinee says that a she sent her friend a text message during an exam break with a question about the exam, the message would have to be documented from the examinee's mobile device by the investigator examining the device and taking photographs of the messages and the contacts to preserve the evidence. If the examinee said that she and all of the members of her study group obtained exam prep materials from the same test prep company, the investigator must obtain a copy of the study materials and further pursue all investigative leads related to the company.

All study materials and documents obtained from the investigation that could potentially contain exam content must be analyzed by the test sponsor to

determine whether there are any matches to actual exam content. Some test sponsors have software that performs these comparisons but others may simply rely on test development staff members to manually make these comparisons.

### **Reaching Conclusions and Determining Next Steps**

Following the conclusion of the investigation, the test sponsor must evaluate all of the evidence it has gleaned from the investigation and reach conclusions about the validity of the examinee's score and whether the examinee engaged in conduct that falls short of the ethics, character and/or professionalism standards required by the test sponsor. At the conclusion of most investigations, it is rarely one piece of evidence that will dictate the test sponsor's findings. Rather, it is a collection of evidence in the aggregate that necessarily guides the test sponsor to particular findings.

The test sponsor must have clear evidentiary standards by which it can weigh the evidence and decide what actions it may take with respect to an examinee suspected of test fraud. The evidentiary standards applied by the test sponsor should be clearly spelled out in the examinee agreement, along with all potential consequences for findings of score invalidity and/or exam misconduct.

The highest evidentiary standard under the law is that used for criminal cases –beyond a reasonable doubt. Although somewhat difficult to define, a reasonable doubt is generally interpreted to mean that a reasonable person would hesitate to find that the allegations are true. If a reasonable person would not hesitate in any way to act based on the evidence presented, then the matter

is proven beyond a reasonable doubt. The much more lenient standard for a finding of civil liability is a preponderance of the evidence. The preponderance standard is best defined as a finding that it is more likely than not that an event occurred as alleged.

Test sponsors concerned with the ethics, good character or professionalism of their examinees may reasonably conclude that if a preponderance of the evidence demonstrates that the examinee engaged in conduct designed to obtain an unearned advantage on the exam, that is sufficient not only to cancel the examinee's score but also to impose sanctions in accordance with the sponsor's policies and procedures. Indeed, depending on the extent of the misconduct, some test sponsors may consider the examinee's misconduct a disqualifying circumstance that precludes the examinee from obtaining the credential sought through the test sponsor. On the other hand, some test sponsors may decide that the evidentiary bar should be beyond a reasonable doubt before they impose sanctions on an examinee that could have career ending or life-long collateral consequences.

If the test sponsor concludes that the evidence of examinee misconduct fails to meet the evidentiary standard that it has adopted, but the examinee's test score is nevertheless unreliable based upon a statistical analysis, the test sponsor can simply cancel the examinee's score and require the examinee to retake the exam without imposing any additional consequences (assuming that these consequences are clearly articulated in the examinee agreement).

**IMPORTANT DISCLAIMER:**

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