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**To:** Board Members **Date:** November 4, 2016

**From:** Jessica Sieferman **Telephone:** (916) 575-7170  
Executive Officer

**Subject:** **Agenda Item 4 - Update, Discussion and Possible Action on Concerns Raised Related to the National Board of Examiners in Optometry (NBEO) Examination and National Board Examinations (Parts I, II, and III); NBEO to Participate Via Telephone**

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At a previous Board meeting, the Board heard and discussed concerns related to the National Board of Examiners in Optometry (NBEO) and their administration of the National Board Examinations. Those concerns centered on NBEO's method used to identify students cheating on the examinations, system malfunctions during the examinations, and the lack of communication between the NBEO and the Board.

In a letter from Board President, Dr. Madhu Chawla, OD, NBEO was notified about the concerns raised at our meeting and invited a NBEO representative to attend the February Board meeting (Attachment 1). The letter, addressed to the NBEO Board President, was also forwarded to all NBEO Board of Directors. The Board has yet to receive a response from NBEO.

NBEO responded to the Board's concerns in a letter dated February 17, 2016 (Attachment 2). However, the Board requested NBEO representatives attend a Board meeting in person to have an open dialogue regarding the concerns raised.

NBEO's Chief Executive Officer, Dr. Jack Terry, OD, expressed NBEO's appreciation for the opportunity of an open dialogue and agreed to attend the November meeting with NBEO's President. Unfortunately, due to unforeseen circumstances, they are unable to attend in person. They will, however, participate by telephone in order to address any additional concerns and answer any questions members may have.

In addition, Dr. Terry recently informed Board staff that Part I of the NBEO (Applied Basic Science) becomes a computer-based test for the next and all succeeding administrations; candidates will take the exam on computers in small cubicles at Pearson VUE centers. Thus, Dr. Terry stated they will no longer need to run detailed forensics. This may remove the concerns the Board has about these types of analyses with Part I (Part II PAM already being CBT).

### **Attachments**

1. Board letter to NBEO
2. Response from NBEO to the Board

**STATE BOARD OF OPTOMETRY**2450 DEL PASO ROAD, SUITE 105, SACRAMENTO, CA 95834  
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February 3, 2016

William B. Rafferty, O.D.  
President  
National Board of Examiners in Optometry  
200 S. College Street, #2010  
Charlotte, NC 28202

RE: National Examinations for Optometric Licensure

Dear Dr. Rafferty,

The California State Board of Optometry (Board) has been contacted by administrators, professors and students from California schools of Optometry regarding various issues involving the National Board of Examiners in Optometry's (NBEO) administration and scoring of their three-part examination. In an effort to resolve these issues, the Board is requesting you or a member of NBEO's Board of Directors to participate in the discussion during this agenda item at our public board meeting on Friday, February 19, 2016 in Los Angeles, California.

Like the NBEO, the Board's mission is to protect the public. We do so through licensing, education and regulation of the practice of Optometry. In keeping with our vision – most notably our second core value of integrity through our commitment to honesty, ethical conduct and responsibility - we have an obligation to the citizens of our state in all matters to make sure that qualified applicants are licensed.

As you are aware, the Board does not administer the national licensing examination. Instead, the Board relies on the NBEO to accurately assess the competence of aspiring optometrists through high quality test development and administration, standard setting and equating, and test innovation as stated in NBEO's mission.

In keeping with our responsibility, the Board is bringing to the NBEO its concerns regarding testing administration in light of events impacting the integrity and fairness of its testing practices. We understand from practitioners and public members alike, through communications and attendance at our public session Board meetings, the NBEO has had computer and software malfunctions during examinations which have contributed to testing cadence irregularities.

Further, the Board has been apprised that NBEO, based upon statistical analyses of examinations results, has suggested that students taking the national examination may be cheating or in some manner subverting the examination. As allegations of cheating are serious, and the subversion of a licensing examination is grounds for the Board to deny a license, it is crucial that the validity and soundness of NBEO's statistical analysis be demonstrated.

These issues may negatively impact the amount of licensed optometrists in California and lead to less patient access to optometric care in California.

William B. Rafferty, OD  
February 3, 2016  
Page 2

Given these significant issues and their potential impact to patient access and the futures of California's optometry students, we are requesting you or a member of NBEO's Board of Directors to participate in the discussion during our February 19, 2016 meeting.

Sincerely,



Madhu Chawla, O.D., President  
California State Board of Optometry

cc: NBEO Board of Directors  
Jill Martinson-Redekopp, O.D.  
Elizabeth Hoppe, O.D., Dr. P.H  
Melvin Shipp, O.D., MPH, Dr. P.H.  
Alan King, O.D.  
Fary Cachelin, Ph.D.  
Lewis Reich, O.D., Ph.D.  
Jerry Richt, O.D.



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Madhu Chawla, O.D.  
President, California State Board of Optometry  
2450 Del Paso Rd, Suite 105  
Sacramento, CA 95834

February 17, 2016

Dear Dr. Chawla,

The National Board of Examiners in Optometry (NBEEO) values the thoughtful comments presented in your February 3, 2016 letter. Although it is not possible to send representatives from NBEEO, Pearson VUE, and Caveon to your meeting of February 19, 2016, NBEEO has prepared the following information that hopefully your board and stakeholders will find enlightening, responsive, reassuring, and helpful.

The National Board of Examiners in Optometry serves to protect the public and the optometric profession through the development, administration, scoring and reporting of valid examinations that evaluate competence. The NBEEO examinations are designed to assure state boards that those candidates who pass all Parts of the exams are competent to practice the profession of optometry as unsupervised healthcare providers. The NBEEO takes its responsibility and commitment to the state boards very seriously and works diligently to foster an environment of collegiality and collaboration with each jurisdictional board of optometry.

The primary purpose of the collective NBEEO exams is consumer protection, as it directly relates to the caliber of practitioners seeking optometry licensure. Our goal, consistent with the objective of the California State Board of Optometry, is to ensure that individuals who are granted an optometric license possess the knowledge, clinical thinking, and skills (i.e., "expertise") necessary to practice in a competent manner. This goal is accomplished by differentiating, via board examinations, those who **do** have the necessary expertise from those who **do not**, at the level of the Minimally Qualified Candidate (MQC). Since NBEEO examination results are used, in part, for licensure purposes, they must be sufficiently demanding, rigorous, and reflective of the most challenging aspects of the common scope of current optometric practice to meet the "good faith" expectations of state optometry boards responsible for public protection. The National Board acknowledges the high level of accountability to which state boards hold the NBEEO to produce reliable and valid examinations.

Please rest assured that the NBEEO shares your "value of integrity through our commitment to honesty, ethical conduct and responsibility." Due to situations that have occurred in recent years that required significant action and resolution, the National

Madhu Chawla, O.D.

Page 2

February 17, 2016

Board has developed an even stronger ethics policy that all exam candidates are required to accept prior to sitting for all NBEO exams:

- [http://www.optometry.org/pdf/ethics\\_policy.pdf](http://www.optometry.org/pdf/ethics_policy.pdf)

In addition, candidates are required to watch the associated NBEO Ethic video prior to taking any NBEO exam:

- <http://www.optometry.org/ethics.cfm>.

The NBEO adopted this ***NBEO Ethics Policy*** and produced the ***NBEO Ethics Video*** to establish rules regarding the proper conduct of exam candidates for all NBEO examinations and to protect the confidentiality of all National Board exam items and materials. This absolutely is necessary in order to ensure the validity of candidates' test scores and of the examination process as a whole.

The NBEO utilizes its *Ethics Policy* and the *Candidate Agreement* to remind candidates of the consequences of improper conduct. The NBEO employs a group of highly motivated and trained proctors to monitor candidates and to protect its intellectual property. In addition, subsequent to the unethical practices discovered several years ago, the NBEO contracted with Caveon Test Security (CTS) to perform statistical analyses and data forensics following selected National Board examinations to ensure that the results are trustworthy before releasing them to state boards.

Caveon was founded in 2003 to help protect the items, tests, and reputations of high-stakes test programs like NBEO in all areas of testing, including licensure. Caveon offers proven, practical solutions for test security and test development to dozens of the largest, most important test programs all around the world.

Since Caveon's inception, the company has been trusted by hundreds of organizations to provide practical, measurable enhancements to the protection and integrity of their test programs. As the stakes in testing continue to rise, so do the challenges involved in protecting the testing program. Since NBEO results are of significant importance, someone, somewhere, may be seeking to gain an unfair advantage, compromising the validity of the NBEO program. Through use of Caveon's exam analyses, we are able to return all exam candidates to a level playing field.

Following the administration of every Part I Applied Basic Science (ABS) and Part II Patient Assessment and Management examinations (PAM), the NBEO standard operating procedure now includes an analysis of candidate responses to ensure confidentiality and security of test items and that each candidate's exam score accurately reflects that candidate's actual knowledge and competence. The analysis is conducted to maintain the validity and trustworthiness of the Part I ABS and Part II PAM examinations.

Madhu Chawla, O.D.

Page 3

February 17, 2016

The NBEO has the authority, responsibility, right, and obligation to ensure that the Part I ABS and Part II PAM examinations are administered properly and that the scores arising from the examination are a valid measure of the candidate's knowledge and competence. In order to meet these obligations, the NBEO follows due process and treats all examinees uniformly, fairly, and consistently. The NBEO trains its proctors to report potential testing irregularities. Proctors are trained in many other procedures to protect and preserve the integrity of the examinations.

Despite training and vigilance, it is always possible for a determined individual to copy from a neighbor, or for a pair to collude during the examination. The NBEO exam administrators are not responsible for ethical lapses by students, and, NBEO assumes that all educators uphold the standard of ethical behavior required by those who practice optometry. Subsequently, when Part I ABS exam day arrives, candidates fully understand and are required to follow the ethical standards that are thoroughly defined by the NBEO Ethics Program and reinforced by the NBEO Ethics Video.

The NBEO goes to great lengths and expense to cancel only those scores in which there is a very high likelihood that the scores are untrustworthy. In fact, the minimum criterion for copying and/or collusion is an 'index value' of 7.5. This represents a 1 in 31,622,777 chance that 2 candidates' scores could be similar in a particular, specific pattern of correct and incorrect responses. Seating proximity during the exam is always verified when index values reach this level of improbability.

Candidates who take the targeted March Part I exam and whose scores are deemed untrustworthy have the opportunity to appeal these decisions, and then if necessary, to retake the exam at its next administration, in August, sometimes at no charge. This results in a scenario in which there is no interference in the normal release of these candidates' scores to the state boards. Other than the documented instances of cheating in the 2009-2010 item piracy, no candidate is charged with 'cheating.' Sometimes, scores simply cannot be considered as 'trustworthy.' The NBEO, state boards of optometry, and the public deserve scores that can be meaningfully trusted.

Your February 3, 2016 letter also references testing irregularities that have recently occurred at Pearson VUE testing centers. Established in 1997, [Pearson VUE](#) is the global leader in computer-based testing. Pearson VUE partners with over 500 clients to help develop, manage, deliver and mature their testing programs, and to better realize the aspirations of their candidates.

These high-stakes assessments are taken by over 14 million candidates each year in diverse sectors such as medical, financial, information technology (IT), academic and government. Along with its innovative technology, Pearson VUE is renowned for offering the highest levels of exam and candidate security along with best-in-class customer service. Pearson VUE delivers tests through a network of over 5,200 test centers across 175 countries. A few of the organizations, in addition to NBEO, that

Madhu Chawla, O.D.

Page 4

February 17, 2016

Pearson supports are:

American Academy of Implant Dentistry (AAID)  
American Board of Allergy and Immunology (ABAI)  
American Board of Dermatology (ABD)  
American Board of Emergency Medicine (ABEM)  
American Board of Internal Medicine (ABIM)  
American Board of Internal Medicine (ABIM)  
American Board of Surgery (ABS)  
National Association of Boards of Pharmacy (NABP)  
NCLEX Examination - National Council of State Boards of Nursing, Inc. (NCSBN)  
American Osteopathic Board of Internal Medicine (AOBIM)

Because the NBEO utilizes Pearson VUE professional centers to administer the Part II PAM/TMOD examinations, ACMO, and CPDO examinations, we are subject to technical issues that crop up during the Pearson examination administration process, exactly as all of the above-listed organizations are vulnerable to these unfortunate occurrences. The NBEO Board of Directors assures you that communication with Pearson VUE management AND with candidates taking exams is intense on a real-time basis when Pearson's unforeseen and regrettable IT issues arise.

In January 2016, the NBEO President of the Board of Directors and three NBEO management-level staff members visited the Pearson VUE global headquarters to meet with the Pearson VUE CEO and management team. Pearson VUE has committed its team to work closely with NBEO staff in the publishing, quality assurance, and delivery phases of its examinations. However, no given NBEO exam administration is immune to another IT incident, within the Pearson VUE testing system or within any other computer-based testing system. Computer glitches happen in the 2016 IT-dependent world and cannot be avoided 100% of the time.

As described by Pearson VUE's Senior Vice President of Technology, the *December 2, 2014* administration of the Part II/PAM examination experienced a 'test publisher error' that affected some candidates' ability to review marked items in the second session. Therefore, the exam ended abruptly as the affected candidates answered the last item in the exam. Pearson VUE was able to correct this issue for the *December 4, 2014* administration. All candidates who were affected were offered a free retake.

Once this retake process was completed, according to intensive analysis by NBEO psychometrics staff and Alpine Testing Solutions, Inc., there was no statistical evidence that the December 2014 Part II PAM/TMOD administration differed from other administrations.

Pearson VUE also explained that the irregularity that struck during the *December 2015* Part II PAM/TMOD administration was caused by their introduction of new security software in the test driver. Unfortunately, there was a defect in memory management that was missed during Pearson's quality assurance testing due to incompatible security

Madhu Chawla, O.D.

Page 5

February 17, 2016

software integration. This problem caused some candidates' computers to freeze up, which required rebooting, sometimes multiple times.

Since this event, Pearson VUE has worked with the vendor of the security software to understand the software bug. A solution to the glitch was developed and successfully tested. Pearson VUE is currently working with the NBEO to develop schedule changes and is adding more system checks prior to test delivery on exam day.

Both NBEO and Pearson VUE are committed to excellence in testing. Attached is a letter from Pearson VUE's CEO, Mr. Bob Whelan as well as the correspondence to candidates from NBEO. As you can see, all December 2015 Part II PAM/TMOD candidates were given the option of a free retest. Those candidates who opt for the free retest in April 2016 will have their scores released at the same time that all scores are routinely released to the state boards, after graduation has been confirmed by the schools/colleges. There will be no delay in any licensure decisions by any state boards, thus minimizing negative effects for candidates and assuring that the public access to high quality optometric services is unfettered.


The NBEO would like to reaffirm its commitment to all state boards and to the mission of public protection through the development, administration, scoring and reporting of valid examinations that evaluate competence.

Once again, the NBEO appreciates your dedication to the competent practice of optometry and to the highest scientific and ethical standards. If there is a future opportunity for NBEO to meet with the California Board, we will make every effort to be available to participate. I invite any additional questions or comments that you may wish to proffer.

Best regards,

A handwritten signature in black ink that reads "William B. Rafferty" followed by a stylized flourish.

William B. Rafferty, O.D.  
President, NBEO

A handwritten signature in black ink that reads "Jack E. Terry" followed by a stylized flourish.

Jack E. Terry, O.D., Ph.D.  
Chief Executive Officer, NBEO