

The American Board of Forensic Anthropology's Certification Program

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ABSTRACT: Certification through the American Board of Forensic Anthropology (ABFA) provides forensic anthropologists with accredited validation of the highest level of qualifications (including education and training) and professionalism in the discipline, through rigorous vetting of an applicant's casework, knowledge, and skill. It encourages adherence to best practice methodological and ethical standards and provides a system of recognition of qualified professionals to external agencies. Current policies and procedures (and their evolution) for ABFA certification are reviewed as they contribute to construction of an equitable, impartial, and objective system for assessing and endorsing professional competency. Advice is provided for ABFA applicants for successful navigation of the ABFA certification process.

KEYWORDS: forensic anthropology, ABFA certification, professional competency, ABFA applicants

Introduction: Certification and the American Board of Forensic Anthropology

Forensic anthropology has recently enjoyed a renaissance of method development, propelled in part by general criticisms emanating from the forensic sciences 2009 National Academy of Sciences report (Committee on Identifying the Needs of the Forensic Sciences Community 2009) and subsequent introspection of the scientific foundation for the discipline (and virtually all other forensic science disciplines) in the decade thereafter (Boyd & Boyd 2018). This self-reflection has led to an increased focus on best practices, including validating research methods and results and reducing error and bias (Boyd & Boyd 2018). This push for rigor, standardization, and accountability has pervaded not only our theoretical and methodological base but our professionalism as well, including circumspection regarding how it is achieved, certified, and maintained (Passalacqua & Fenton 2012).

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Received 21 January 2020; Revised 11 March 2020;
Accepted 23 March 2020

Although forensic anthropology certification programs are available internationally (see Bartelink et al. 2020), the only accredited body for establishing forensic anthropology professional qualifications in the United States is the American Board of Forensic Anthropology (ABFA). Like all certifying bodies, the ABFA has historically struggled with the goal of achieving and maintaining a fair and equitable, but rigorous, relevant, and useful system of certification to evaluate the professional competence of its practitioners. The purpose of this article is to chronicle the major structural and procedural changes over the past decade that have moved the ABFA further toward this goal, enabling it to be a valuable endorsement and reflection of the highest standard of professional practice in the discipline. Summaries of substantive changes to ABFA structure and standards that are used to evaluate, test, and certify applicants are derived from reviews of ABFA secretary minutes from the 2011–19 annual and midyear Board of Directors (BoD) meetings and the annual diplomate business meetings, the 2018 ABFA reaccreditation report submitted to the Forensic Specialties Accreditation Board (FSAB), ABFA historical documents curated at the Smithsonian Institution National Anthropological Archives, and the ABFA Policies and Procedures Manual (P&PM) and Bylaws (ABFA 2020).

The Value of ABFA Certification: Why Become Certified?

The majority of forensic anthropologists practicing in the United States are not board certified (Passalacqua & Pilloud 2020), although this is rapidly changing (see Bartelink et al.

2020). Recently, Passalacqua and Pilloud (2020) surveyed forensic anthropologists about education and training as well as ABFA certification. The authors found that while only 18% (39/214) of respondents were certified, 92% of respondents agreed that certification is beneficial, with 83% agreeing that ABFA certification is beneficial. Further, they found the most common reasons for potential applicants not pursuing certification by the ABFA were that certification is not required to practice forensic anthropology (29%), the belief that ABFA organization/certification is flawed/biased (13%), lack of casework/case reports required for application (13%), and lack of time to prepare for the certification exam (9%). Others felt it unnecessary to seek certification. Melbourn et al. (2019) identified similar reasons for not seeking certification in the broader forensic sciences.

Thus there is disagreement among professional forensic anthropologists regarding the value of certification. We encourage those who meet eligibility requirements to apply for ABFA certification in that it:

- reflects the highest level of qualifications in forensic anthropology, including education, training, and competency in the discipline through rigorous vetting of an applicant's casework, knowledge, and skills;
- ensures that practitioners are using current and best practice methodology and are aware of the most recent research in their field; thus, it encourages excellence in forensic anthropology practice;
- provides an impetus to maintain involvement in professional continuing education activities including teaching, research, and public service;
- requires the highest moral, ethical, professional, and personal standards (as dictated by the ABFA Ethics statement);
- provides a mechanism for external agencies (courts, law enforcement, and others) to identify qualified professional forensic anthropologists;
- may be required for employment at certain agencies.

ABFA Certification Compliance: The FSAB and Accreditation of the ABFA

With the support of the National Institute of Justice (NIJ) and the Forensic Sciences Foundation (FSF), the FSAB was incorporated in 2000 as an independent certifying organization tasked with developing “a voluntary program to assess, recognize, and monitor objectively the various forensic specialty certification boards which sought accreditation” (Bunch et al. 2017:22). The FSAB is currently responsible for the accreditation of 10 different forensic science certification organizations, including the ABFA. The ABFA was first accredited through the FSAB in

March 2009. Because FSAB reaccreditation occurs every five years, the ABFA was reaccredited in March 2014 and March 2019. As of 2017, the FSAB requires conformity assessment bodies (CABs) such as the ABFA to be compliant with ISO 17024 in their implementation of certification and recertification. Since this time (and going forward), many of the changes in the ABFA certification process and ABFA P&PM reflect conformance to ISO 17024.

Current (2020) FSAB accreditation and reaccreditation standards mandate a number of requirements for accredited boards like the ABFA, including clear and equitable policies for a well-defined organizational and management structure, concrete evidence for membership and committee appointments, an accessible complaints and appeals process, a confidential and secure records (data) management and curation procedure, and financial integrity. There also needs to be evidence of established examination assessment guidelines including exam preparation, creation, validation, grading, and remediation procedures.

Regular internal audits are to be conducted by the CAB to ensure these conditions are being met. In addition, an external audit in the form of a site visit by the FSAB, verifying evidence for all of the above as well as additional requirements, is mandated for each FSAB accreditation and reaccreditation application. These requirements are in place to ensure that there is independent, objective oversight of a CAB's ability to endorse professional competency in its discipline. This not only contributes to transparency and fairness within the certification process but also adds value to the applicant's certification. FSAB accreditation requirements have been a driving force in establishing ABFA policies and procedures. It will be evident in this article that many of the changes in ABFA policies over the past decade have been in direct response to these FSAB requirements.

The following summarizes current policies and procedures for ABFA certification and presents advice to applicants navigating this process (note: this discussion does not include an exhaustive list of requirements—please see www.theabfa.org for the full ABFA application process). Highlighted are areas within each requirement that have evolved over the past decade both to meet FSAB compliance and to assess and endorse professional competence while ensuring maximum levels of impartiality, confidentiality, diversity, and equity across its applicants, members, and discipline.

The ABFA Certification Process

Eligibility

Certification through the ABFA begins with assessment of eligibility. Since its inception, ABFA certification has been available to permanent residents of the United States,

Canada, or associated territories who hold a PhD in physical or biological anthropology and who possess the highest ethical and professional standards.

In a quest to grow and diversify potential ABFA applicants, particularly international ones, in 2011 the ABFA BoD voted to add to the P&PM a more formal provision that opened the door to the international forensic anthropology community: “Individuals who are not permanent residents of the United States, Canada, or their territories may petition the Board of Directors for a waiver to be considered to apply to sit for the board certification examination. The decision to consider this waiver is at the discretion of the Board of Directors.” (ABFA 2020). Another provision was added to the P&PM in 2012 allowing consideration of national or international applicants in possession of related degrees (for example, anatomy) for ABFA eligibility, again through a waiver and at the discretion of the BoD.

Other attempts to increase accessibility to and maintenance of ABFA certification included the creation of a disability accommodation policy in 2013 (establishing a process by which special accommodations for examination can be requested by examinees) and a medical leave/medical retirement policy in 2019 (allowing for the granting of retirement status to a diplomate who has “a medical condition that inhibits or prohibits activities required for recertification and who does not meet Retirement status requirements” of 10 years of certification as an ABFA diplomate). In 2018 the ABFA BoD and general diplomate membership voted to remove the mandatory three-year waiting period after receipt of the PhD to apply for ABFA certification. This change acknowledges that many applicants have significant case experience by the time they receive their doctoral degrees and also serves to increase the pool of potential applicants.

Development of the ABFA website has contributed to efforts to increase participation in certification in a transparent manner and represents the go-to source for current P&PM, bylaws, and application requirements and recommendations. Advice to students interested in becoming professional forensic anthropologists is also presented on the

website, as is a list of educational institutions (both graduate and undergraduate) with ABFA diplomates on staff. The website also contains a “feedback button” so diplomates and others can contact the BoD with comments, questions, and issues they want the BoD to address.

These measures, in combination with presentations of “How to Apply for ABFA Board Certification” workshops at the American Academy of Forensic Sciences (AAFS) annual meetings (since 2018), have helped to remove many of the barriers of ABFA certification, correct misinformation regarding the certification process, and encourage applicants from a diverse array of backgrounds and educational institutions to apply for certification. It can be noted that, perhaps in response to these efforts at making ABFA certification more accessible, a spike in the number of applications has occurred since 2017 (see Bartelink et al. 2020).

The Application Process

The ABFA Application

A summary of major milestones (including deliverables) and deadlines for ABFA certification can be found in Table 1. Individuals wishing to pursue ABFA certification must first contact the ABFA applications chair (a member of the ABFA BoD to whom this task is assigned on an annual basis) to request an application. Since 2013 the application deadline has been April 1, enabling review of new applications to occur at a special BoD meeting typically in late spring. Since at least 2011, expectations for applications have been placed on the ABFA website, and since 2013, the majority of application materials have been electronically submitted.

In addition to the required materials for submission detailed in Table 1, ABFA applications may also include training and proficiency testing logs. As early as 2013, the ABFA BoD began consideration of mandatory submission of these records of professional development, which may include evidence for proficiency or competency testing, number and

TABLE 1—*The ABFA Application Process.*

Deliverable	From	Delivered to	Deadline
ABFA application submission*	Applicant	ABFA application chair	April 1
ABFA application fee	Applicant	ABFA treasurer	April 1
Decision regarding application	Application chair	Applicant	October 1
Intention to sit for exam	Applicant	ABFA vice president	December 1
Examination fee	Applicant	ABFA treasurer	December 1
Sit for exam	Applicant	ABFA vice president	TBA
Decision regarding exam	Vice president	Applicant	March 31

*ABFA application submission must include two copies of the notarized ABFA application (one electronically submitted, one mailed); three redacted forensic anthropology case report files with supporting documents (e.g., photographs and bench notes); three professional letters of reference from at least two institutions (one of these references must come from an ABFA diplomate); and a copy of the applicant's doctoral diploma and curriculum vitae.

type of casework, specific types of analyses performed (including radiographic identification, trauma, etc.), workshops, and other professional activities that provide a window into an applicant's experience and skills. However, a 2018 ABFA diplomate survey resulted in a slim majority of diplomates voting against requiring evidence for competency testing as part of the application, citing problems relating to difficulties in standardization, implementation, and evaluation as well as ensuring equality of access to testing. These logs are currently recommended but not required, and are treated as supplements to the submission portfolio.

In terms of ABFA application review, in 2012 a formal BoD Application Committee was established. Composed of three BoD members, including a chair, its duty was to accept and complete an initial review of all applications and identify any conflict of interests regarding applications before sending them on to other BoD members for evaluation. Since 2014 this initial contact with applications is relegated to the chair of the Application Committee, who directs the review process using a "blind" system. Each application is initially assigned a random identifier by the chair at the moment of submission. The redacted case reports are sent out to all other BoD members (except those who are identified by the chair as having a potential conflict of interest) for review separately from the remainder of the application, identified only by this random identifier. BoD members receive identifying information accompanying the curriculum vitae, application form, and diploma together as a packet only *after* they review and assess the redacted case reports. The chair does not join the remaining BoD members in voting for acceptance or rejection of applications.

Case Report Submission and Evaluation

Case file submission, reduced from a requirement of five case reports before 2011 to three currently, is one of the most important components of the ABFA application, and one that presents significant problems for many applicants. In terms of ABFA application evaluation, there have been many significant changes across the past decade to try to address these problems. This has not been an easy task, since the BoD faced the dilemma of presenting recommended guidelines for case report submission and presentation in a forensic anthropology world composed of diverse and non-standardized agency case file submission requirements.

An ABFA "Guidelines for Case File Submission" rubric for how applications are evaluated was placed on the ABFA website as early as 2011. Revised in 2013, 2015, and 2019, it contains a description of the ABFA's expectations for case file submissions and assists BoD members during their review of applications. For example, more specific verbiage was added to the guidelines in 2013 explaining how case report files are evaluated and included a checklist to be used

in evaluation of forensic anthropology case reports. In 2015 this rubric for assessing applications was expanded to include standards for quality of photographs, references, and skeletal and dental inventories.

Striving toward a more objective means of case file evaluation, in 2019 a more formal evaluation rubric was developed following the ABFA Bylaws and P&PM and applied to each case report. The "Guidelines for Case File Submission" reflects this rubric—it is strongly recommended that applicants refer to this document for recommendations regarding how their case files will be evaluated. Important considerations for applicants include recommended submission of diverse types of case reports, meaning those that allow the applicant to demonstrate his or her comprehensive use of appropriate and currently accepted standards, methodology, references, and supporting documentation (e.g., FORDISC, photographs, bench notes, and chain of custody) in varied professional forensic anthropology circumstances. This may include varied sources (mock cases vs. actual cases) and contexts (e.g., skeletal, partial decomposed, commingled) of remains as well as casework methodology (e.g., biological profile, trauma, taphonomy, and postmortem interval and modifications). Some of the most common problems in case file submissions relate to the amount of detail provided in the reports and the bench notes, whereas other issues involve analytical errors and misinterpretations (including over-interpretation or under-interpretation) of results and misapplications of otherwise sound forensic methods. The quality of writing reflects upon the level of professionalism exhibited by applicants; thus, it is very important to ensure that these case reports are free from grammatical and typographical errors and are well organized and thorough in terms of their content. Applicants must remove all identifying information from these reports in order to provide blinded reports for the application process and to ensure anonymity of applicants and decedents. This includes cover letters, reports, photos, bench note names, agency identifiers, and other materials that will be passed on to reviewers. It is strongly recommended that applicants who have not done so as part of their normal laboratory review process have their case reports for submission be reviewed by an active ABFA diplomate who is not currently on the ABFA BoD. Some institutions will provide access to human skeletal material so that potential ABFA applicants can use them as mock cases for submission of their application. Mock cases are allowed to be included in the ABFA application packet as long as detailed provenience information is provided and applicants have no prior knowledge of the details of the case.

The P&PM mandates that applicants are notified of the status of their applications no later than October 1 of the year in which they applied, although this generally occurs much earlier (typically following the BoD's review of new applications in late spring). Successful applicants must notify the

ABFA vice president of their intent to sit for the certification exam and submit the examination fee to the treasurer by December 1.

The ABFA Certification Examination

The ABFA vice president, with the assistance of Examination Committees, directs exam preparation, creation, delivery, and grading. As explained in Bartelink et al. (2020), significant changes in the ABFA certification exam's form and content have occurred, particularly over the past decade. These include major alterations in recommendations for applicant preparation and standards for exam creation, format, validation, delivery, and grading in an effort to make the process less subjective and more transparent while maintaining the exam's integrity and rigor.

Applicant Preparation for the Exam

The ABFA BoD minutes indicate that as early as 2012, an ABFA "Exam Study Guide and Preparation" document was made available to applicants before the examination and included a list of suggested reference materials, although it is unclear how formally this was followed or how thorough it was (it was clearly stated that it was not an exhaustive list). By 2015 this list had evolved into a "Reference/Study Guide," a general list of journals, books, and other sources that would be useful for exam studying (but were not directly mapped to it). Beginning in 2018, an "ABFA Board Examination Sources and Key Concepts" list has been distributed to examinees approximately six months prior to the exam. It is updated annually and is openly available upon request to the ABFA vice president. Examinees also receive a list of potential stations that might be on the practical portion of the exam approximately four months before the exam, including any specific reference publications that might be necessary (e.g., which specific set of osteological measurement guidelines the exam is testing to). In addition to these resources, several educational institutions have allowed applicants to study their collections to prepare for the ABFA certification exam. For applicants without exposure to a large variety of skeletal collections and casework, it is highly recommended that they take advantage of these opportunities to strengthen their experience and skill before examination.

Recent Changes in Exam Creation, Format, and Relevance

Bartelink et al. (2020) discuss in detail the changes in exam content since its inception. As they note, the ABFA examination underwent a major change when the written portion changed format from essay to multiple-choice questions in

2011. By 2016 an Exam Question Committee was established to submit questions to the ABFA question bank for the written portion of the examination. Although a process was put into place for updating and validating curated questions in the question bank every five years, in actuality, this process has been ongoing. Recent changes to the question bank, as advised by an psychometrician consultant, include an alignment with the more objective question format adopted by the National Board of Medical Examiners (National Board of Medical Examiners 2016), which, for example, does not allow negative preemptors such as "none of the above" or other negatively phrased questions ("all of the following except") or response options where that option is not the correct answer. Ambiguous responses (such as "A and B only") are also prohibited. Questions in the question bank are currently undergoing amendment to conform to these standards; those that are not able to be revised and validated are retired. The new Examination standard operating procedures also require that questions be mapped to a specific bibliographic source—a pdf file of the article or book chapter referencing the question (unless it is a general source) is required for each new question submission, and these tie directly to the "ABFA Board Examination Sources and Key Concepts." Finally, FSAB accreditation standards require that a CAB's examination is actually testing to what is relevant in the discipline. Thus, a "Jobs Analysis" and other ABFA surveys are currently being designed to assess contemporary professional use of best practices and methods and will inform future question inclusions and deletions to ensure that questions are not outdated, peripheral, or irrelevant.

Exam Validation

Both the written and practical portions of the exam are validated each year by the ABFA Exam Validation Committee (EVC) prior to any applicants taking these exam portions. The EVC is composed of a chair and three BoD members as well as a diplomate-at-large. For the written exam, all multiple-choice questions undergo intense scrutiny via a formal process established by the EVC before their inclusion in the ABFA question bank, and only questions from the question bank can be used on the written portion of the ABFA certification exam. The validation process for a multiple-choice question is as follows: all potential questions that are up for validation, as well as a key for these questions, are submitted to the EVC chair; the EVC chair then sends these questions out to EVC committee members, who attempt to answer these questions (without the key); they subsequently check their answers against the provided key and mapped reference(s), provide a difficulty ranking of 1 to 5 for each question, and include comments and suggested revisions regarding question relevance and clarity; this information is then passed on to the ABFA vice president, via the EVC

chair; the ABFA vice president, in conjunction with the EVC chair, evaluates these comments and edits, updates questions as needed, and then sends the revised questions back for another round of validation review. A question is validated when it meets the following criteria: (1) the majority of validators chose the correct answer; (2) no substantial revisions of the question were proposed; and (3) the question was found to be relevant by a majority of validators.

For the practical exam, by 2012 more formal methods for exam validation were pursued, including validators taking the exam before examinees, discussing answers to each station, and reevaluating a station when questions were raised about its accuracy or instructions. The 2013 ABFA BoD meeting minutes record the presence of three validators, who followed a formal validation process that was written and posted prior to the exam. Presently, validation of the practical exam is also performed by the EVC. Prior to the exam, any practical questions that can be reviewed for validation remotely (such as those that may use images, radiographs, technical records, etc.) are sent by the vice president to the EVC chair. These questions are validated similarly to the written exam questions. The questions that require the handling of physical specimens are validated on-site the day prior to the practical portion of the certification exam. The vice president supplies extra specimens for all questions in case a particular specimen is considered to be problematic by the EVC for any reason. Additionally, the EVC may provide revisions to practical exam station instructions, phrasing, point distribution, or other technical aspects in order to increase question relevance and clarity. Upon completion of the validation of the practical exam, all stations are photographed for future reference.

In terms of independent assessment of the exam, the FSAB recommends review of CAB examination by a trained psychometrician. To this end, in 2018–19 an outside consulting service, Rehm Partners, LLC, was engaged by the ABFA BoD to independently assess the ABFA exam process. This organization quantitatively and qualitatively reviewed questions, responses and response rate, and exam taker feedback from ABFA exam years 2016 through 2018 and was very helpful in identifying areas for exam improvement, leading to many of the changes discussed above.

Exam Delivery

Advice for taking the ABFA examination, both practical and written, can be found on the ABFA website. A number of procedural changes over the past decade have contributed to objectivity in exam presentation. For example, in response to a past failure rate related to inadequate time to complete the exam, the number of practical stations has been reduced. The 2012 exam, for example, was reduced to 12 stations, with multiple analyses required at most stations. The 2012 ABFA

minutes note that all examinees finished this exam on time. Although the number of stations varies from year to year, finishing on or before time has been a consistent pattern since this change. Greater emphasis has also been placed upon avoiding potential bottlenecks to ensure that each examinee has sufficient time to spend at each station.

Ensuring confidentiality and impartiality has also been an important focus over the past decade for the exam process. Nondisclosure agreements are signed for ABFA diplomates involved in the examination process (including graders and validators) prohibiting discussion of exam content or examinees' results to others. Presence of both internal and external observers (e.g., FSAB representatives) during the exam process has been helpful in (and is required for) monitoring the exam process.

Given the growth in number of ABFA examinees (see Bartelink et al. 2020) and the daunting logistical dilemmas associated with putting on the exam (particularly the practical portion), alternate means of testing have recently been considered. Most recent (2020) changes to ABFA exam delivery include the formation of a BoD Exam Development Committee to investigate the potential for remote electronic delivery of the exam utilizing memoranda of understanding with educational and other institutions. This will essentially decouple the ABFA exam from the annual AAFS meeting.

Exam Grading, Notification, and the Appeal Process

The quest for increased transparency, impartiality, and accuracy has driven changes in exam grading and appeals over the past decade. The 2012 ABFA minutes record website posting of examination pass/fail criteria. By 2013 a more formal grading system in the form of an Examination Grading Committee was in place. A new committee was formed in 2012 to explore online testing as an option, while exam grading of the written portion of the exam moved to Scantron computer grading in 2014 with the goal of reducing chances of grading error and reducing grading times. Since 2018, Scantron test statistics for the written exam questions (post-examination) have provided quantitative assessment of question performance through item analysis statistics for each question.

Currently, grading of the practical exam typically occurs on-site at the completion of that exam and is overseen by the ABFA vice president and members of the Examination Grading Committee. Graders are ABFA diplomates who have not been involved in the creation, validation, or proctoring of that year's exam and do not know the identity of the examinee who completed the exam they are grading. By 2012, random identifiers (playing cards) were assigned to each examinee's answer sheets to ensure that these materials are anonymous to the graders. This process has proved to be effective for ensuring examinee anonymity and is still in place.

Patterning has been evident in questions missed by recent examinees; incorrect answers have typically focused on trauma identification, differentiation (e.g., confusing blunt force trauma with gunshot trauma) and interpretation, knowledge of normal skeletal variation, pathological conditions and taphonomic alterations, basic osteology and anatomy concepts, and bone identification. Examinees are cautioned against providing answers that are contradictory or speculative or that offer too little or too much (i.e., over-interpretation) information, especially with regard to trauma and pathological conditions.

Examinees are notified of their exam results through written communication by the vice president no later than March 31. Non-successful examinees are provided personal feedback and areas where improvement is necessary for future exam success. Examinees passing only one portion (i.e., written or practical) of the exam are able to sit for the other portion of the exam the following year. Individuals wishing to retake a portion or all of the exam beyond three failed attempts must submit a written petition to the ABFA secretary no later than September 1.

A formal Appeals Committee was established in 2013, with revisions to the policy occurring in 2014. The length of time to appeal was changed to 30 days, with a 90-day window for the Appeals Committee to reach its decision. The basis for an appeal was also clarified: a question that passed validation cannot be appealed on the basis of its content. Added in 2019 were policies requiring legitimate and clear responses for why examinees' appeals are denied.

Recertification

By requiring professional development and continued education as part of recertification, practitioners are required to stay current with scientific advancements and disciplinary best practices (Melbourn et al. 2019). Beginning in 2018, changes to the ABFA recertification process (mandated every three years for ABFA diplomates) moved away from the previous documentation of number of hours of professional development and more toward an objective rubric for assessing a diplomate's efforts to improve his or her skills and knowledge. This new point system, currently requiring a minimum of 100 points per three-year cycle to maintain certification, led to the creation of a formal tracking system for the certification process accompanied by new certificates (with expiration dates).

Internal Audit: Document Archiving

Creation of a new ad hoc committee, the Archival Committee, to devise an archiving protocol after sorting and inventorying

all ABFA documents began in 2018 in response to the FSAB mandate to provide for confidential and secure records (data) management and curation. It provides for destruction of major portions of applicant files after three years, with the exception of the original application and the letter to the applicant stating his or her exam results. Hard-copy records, including historical documents related to the history of the ABFA, are archived at the Smithsonian Institution's National Anthropological Archives and are available for public review, if classified as non-private. For private documents, the president and vice president decide on "reasonable need" for access permission. Going forward, the majority of documents are digital and are curated on a secure cloud-based system.

Conclusions

At present, the forensic sciences are undergoing a push for professionalization and standardization. This may best be exemplified by the establishment of the Organization of Scientific Area Committees (OSAC) and the Academy Standards Board (ASB). Both organizations were created within the last 10 years in order to develop standards and best practice guidelines for various forensic sciences, including anthropology (Passalacqua & Pilloud 2018). Considered in the guidelines recommended by these entities has been a discussion of qualifications and certification, including hierarchical or tiered certification.

Regardless of the outcome of these discussions regarding the structure of a qualification program or process, the importance of certification in demonstrating an individual's minimum competency in forensic anthropology or any other forensic science practice remains (Passalacqua & Pilloud 2020; Pryzwansky 1993). Recently, Melbourn et al. (2019:161) argued for universal certification, noting that ensuring certification for all forensic science practitioners in the United States would "establish a threshold for competency in the profession, provide a universal standard for ethical professional conduct, and enhance the credibility of forensic science in users of the profession and the general societal public." As Melbourn et al. (2019:167) state: "There is consensus that obtaining certification largely reflects a practitioner's competency by testing their theoretical and practical knowledge, skills, and abilities." To practice without certification represents a disregard for the best practices of a discipline and could be considered unethical depending on the nature of the work and the background of the individual. Certification by the ABFA represents a commitment to the ethical practice of forensic anthropology, as the ABFA has the most rigorous ethical code available and enforceable for forensic anthropologists (Passalacqua & Pilloud 2018). It also provides a mechanism by which external constituencies can

distinguish between a competent professional and an amateur hobbyist.

Significant strides have been made in the ABFA over the past decade to certify professional forensic anthropologists through an equitable, impartial, and objective process while upholding standards for endorsing professional qualifications required of comparable certification bodies. With recognition that this is a dynamic work in progress, the ABFA continues to refine this process each year and is working to ensure that it remains efficient and transparent. ABFA certification requires adherence to best practice methodology, professionalism, and ethics in forensic anthropology, validates the qualifications of its practitioners, and promotes the best possible future for the discipline.

Acknowledgments

The authors would like to thank past and present ABFA Board of Director members, officers, and diplomates-at-large for volunteering their time in the service of their discipline.

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