The Council on Accreditation of Nurse Anesthesia Educational Programs appointed a Standards Revision Task Force to develop new accreditation standards. After 3 years of research and development (2011-2013) by the task force, the Council approved the first entry-level Practice Doctorate Standards and the first voluntary Post-graduate CRNA Fellowship Standards in January 2014. This defining moment in accreditation history marks a transition in the educational preparation of entry-level nurse anesthetists and provides opportunities for learning in a variety of post-graduate fellowships for Certified Registered Nurse Anesthetists.

**Keywords**: Council on Accreditation, fellowship, post-graduate fellowship, Practice Doctorate Standards.
exceeds standards. The US Secretary of Education recognizes accrediting agencies that successfully undergo periodic, stringent review and meet regulations set forth in the Higher Education Act. These federally recognized accrediting agencies are considered reliable authorities of educational quality. Accreditation status is used by the government in determining whether an institution or program can participate in financial aid and other government programs.

Since accreditation is a peer review process, members of the profession who are experts in knowing what is needed to educate competent graduates set specialized education standards. Although standards are set by organizations familiar with the profession, accreditation is not just about standard setting. Other key elements include quality assessment and quality improvement requiring institutions or specialized programs to engage in self-study, subsequently implementing plans to monitor and improve their quality. Measuring up to standards provides accountability to applicants, students, employers, and the public. The goals are for teaching to become more effective, student learning to be of higher quality, and administrative services to be improved.

The use of accreditation standards for nurse anesthesia education began in 1952, when the American Association of Nurse Anesthetists (AANA) Board of Trustees accepted criteria for accreditation of schools of anesthesia. Following the Board’s action, the first formal accreditation standards, titled the Accreditation of Schools of Anesthesia for Nurses, were published. Periodic standards revisions over the next 50 years led to a seventh major revision in 2004.

Process Used to Develop the Standards
At its first meeting in April 2011, the SRTF began drafting standards for doctoral degree programs, aiming to present the first draft to the February 2012 Assembly of School Faculty. The SRTF began by identifying key activities and goals: redefine entry into practice to require doctoral-level preparation; clarify, simplify, and remove redundancy from the language; align the standards with current and projected needs for entry-level preparation; ensure congruence with recognition requirements of the US Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA); preserve institutional and program autonomy; and reflect improvements in accreditation practice. The SRTF conducted an environmental scan to determine how external and internal forces might affect the development of Practice Doctorate Standards. The impact that new accreditation requirements would have on nurse anesthesia programs was also considered. Early on, it was determined that a new framework should be developed wherein the standards would be rewritten, rather than revised.

The SRTF formulated assumption statements to provide a foundation for its future work. Assumption statements were accepted as true during the standards development process and were not further debated. Assumption statements were developed for both the Practice Doctorate Standards (Table 1) and fellowships (Table 2).

The development of the accreditation standards for entry-level nurse anesthesia programs offering a practice doctorate degree was a multiyear process that included input from various communities of interest. Input was received from nurse anesthetists from varied practice settings, the AANA Board of Directors, the AANA Education Committee, the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA), student registered nurse anesthetists, other nursing groups, university

### Table 1. Assumption Statements for Practice Doctorate Standards

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>The COA will continue to be the sole accreditor of nurse anesthesia educational programs.</td>
</tr>
<tr>
<td>2.</td>
<td>The new standards will promote quality assessment and assist in quality improvement.</td>
</tr>
<tr>
<td>3.</td>
<td>The COA will accredit programs housed within and outside of schools of nursing.</td>
</tr>
<tr>
<td>4.</td>
<td>The standards will prepare graduates for entry-level practice as defined by the AANA Scope of Nurse Anesthesia Practice.</td>
</tr>
<tr>
<td>5.</td>
<td>Regardless of the degree awarded, the entry into practice curriculum will have a primary clinical anesthesia focus.</td>
</tr>
<tr>
<td>6.</td>
<td>Entry into practice graduates must meet competencies as delineated in the standards.</td>
</tr>
<tr>
<td>7.</td>
<td>All programs will have a CRNA program administrator and CRNA assistant program administrator.</td>
</tr>
<tr>
<td>8.</td>
<td>Entry-level standards will pertain to RNs with a minimum of a bachelor’s degree.</td>
</tr>
<tr>
<td>9.</td>
<td>The COA will maintain external recognition by recognized authorities.</td>
</tr>
<tr>
<td>10.</td>
<td>The revised standards will support USDE and CHEA recognition requirements.</td>
</tr>
<tr>
<td>11.</td>
<td>The current standards will continue to apply to all master’s level programs but may require revision.</td>
</tr>
<tr>
<td>12.</td>
<td>The COA will encourage academically appropriate articulation between master’s and doctoral degrees, as well as between practice and research focused doctoral degrees.</td>
</tr>
</tbody>
</table>
1. There will be a separate set of standards for CRNA Fellowships.
2. The CRNA Fellowship Standards will be broad and apply to all types of fellowships, including those outside of clinical anesthesia practice.
3. The COA will be the sole accreditor of CRNA Fellowships.
4. CRNAs and APRNs who meet application requirements will be eligible to participate in CRNA Fellowships.
5. All CRNA Fellowships will have a qualified fellowship director who has expertise in the specialty or concentration.
6. CRNA fellows will attain professional competence focused in a special area of study.
7. The CRNA Fellowships will provide CRNA fellows the opportunity to benefit from the scholarship, and increase their marketability and/or professional growth.
8. The CRNA Fellowship Standards will promote quality assessment and assist in quality improvement.
9. It is the intent to create a non-onerous application process for fellowship accreditation at a reasonable cost.
10. The CRNA Fellowship Standards will allow for and encourage institutional freedom with respect to design.
11. The COA may wish to inquire of CHEA and USDE about a change in its scope of accreditation at a reasonable cost.
12. The COA will work collaboratively with the appropriate entities to develop an approval process (accreditation and assessment) for the CRNA Fellowships.

Table 2. Assumption Statements for Post-graduate CRNA Fellowships

Abbreviations: APRN, advanced practice registered nurse; CHEA, Council for Higher Education Accreditation; COA, Council on Accreditation of Nurse Anesthesia Educational Programs; CRNA, Certified Registered Nurse Anesthetist; USDE, US Department of Education.

The SRTF completed a crosswalk with respect to design. The environment comprised relevant literature, internal and external organizations, individuals, and competitors. Expectations of different interest groups were identified through surveys, hearings, focus sessions, open invitations on web sites, and statistical analysis. Events and trends that influence nurse anesthesia education and practice were gathered from these sources, and the findings were subsequently studied, analyzed, and interpreted.

The SRTF conducted extensive research, wrote and revised drafts, obtained feedback from the environment, analyzed databases, completed a statistical analysis, and presented documents to the COA for approval. This process repeated multiple times, resulting in the creation of 5 drafts of the Practice Doctorate Standards, 4 drafts of the Fellowship Standards, and revisions to existing master’s degree standards. The SRTF drafted standards for research doctoral programs; however, the COA tabled them.

The SRTF also created a variety of documents during the standards development project. These documents, developed for COA approval, included the following: evidence resulting from the SRTF’s research in support of proposed standards or recommendations; rationales for decision making; answers to questions posed by the community of interest; position statements; and policies and procedures. Draft standards were compared with requirements of external agencies. The SRTF completed a crosswalk between the Practice Doctorate Standards and the AANA Scope of Nurse Anesthesia Practice as well as a crosswalk between the Practice Doctorate Standards and both the USDE and CHEA requirements.

Standards for accreditation of nurse anesthesia programs define the minimum clinical experience requirements for graduation. The NBCRNA collects data regarding clinical case numbers from graduate transcripts. The NBCRNA provided de-identified clinical case data to the SRTF for each graduate by program. These data were analyzed to draft the minimum clinical experience requirements for the Practice Doctorate Standards.

The 2011 NBCRNA data provided the foundation for the clinical experience requirements included in draft 1 of the Practice Doctorate Standards in 2012. After publication of draft 1, comments from the communities of interest suggested lack of general support for increasing the number of cases that students achieved before graduation. In preparing draft 2, the SRTF set a benchmark for the minimum requirements for clinical experience based on the following assumptions: that the COA data indicated that most employers were currently very satisfied with graduates; employer satisfaction was based on the number of clinical experiences that graduates were actually achieving, not the minimum required in the 2004 standards; and graduates were, in some cases, exceeding the minimum number of clinical experiences required in the 2004 accreditation standards. With few exceptions, the SRTF used this benchmark to set the minimum clinical experience requirement.

The SRTF completed the second and third drafts of the Practice Doctorate Standards in 2013 using 2012 data from the NBCRNA. When developing recommendations for the minimum clinical experience requirements, the SRTF considered written and verbal comments from
Table 3. Crosswalk Between AANA Scope of Nurse Anesthesia Practice and COA Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate

<table>
<thead>
<tr>
<th>Element of Scope of Nurse Anesthesia Practice</th>
<th>COA $^2$ standard that addresses element</th>
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<tbody>
<tr>
<td>Perform a comprehensive history and physical examination</td>
<td>D8</td>
</tr>
<tr>
<td>Conduct a preanesthesia evaluation</td>
<td>D15</td>
</tr>
<tr>
<td>Obtain informed consent for anesthesia</td>
<td>D25, D28, D32, D35</td>
</tr>
<tr>
<td>Develop and initiate a patient-specific plan of care</td>
<td>D5, D17</td>
</tr>
<tr>
<td>Select, order, prescribe, and administer drugs and controlled substances</td>
<td>D5, D9, D10, D11, D13, D14, D17, D19, D20, D21, D22</td>
</tr>
<tr>
<td>Select and insert invasive and noninvasive monitoring modalities and clinical experience requirements</td>
<td>D5, D9, D10, D11, D13, D14, D17, D19, D20, D21, D22, and clinical experience requirements</td>
</tr>
<tr>
<td>Provide acute, chronic, and interventional pain management services</td>
<td>E1.2, E2.3</td>
</tr>
<tr>
<td>Provide critical care and resuscitation services</td>
<td>D1, D5, D12, D13, D14, D16, D19, D21, D22</td>
</tr>
<tr>
<td>Order and evaluate diagnostic tests</td>
<td>D8, D16, D19</td>
</tr>
<tr>
<td>Request consultations</td>
<td>D1, D17, D26, D32</td>
</tr>
<tr>
<td>Perform point-of-care testing</td>
<td>C2.3, D19, E2.2</td>
</tr>
<tr>
<td>Plan and initiate anesthetic techniques, including general, regional, local, and sedation. Anesthetic techniques may include the use of ultrasound, fluoroscopy and other technologies for diagnosis and care delivery, and to improve patient safety and comfort</td>
<td>D9, D10, D11, D2, E2.2, E2.3, and clinical experience requirements</td>
</tr>
<tr>
<td>Respond to emergency situations using airway management and other techniques; facilitate emergency and recovery from anesthesia</td>
<td>D12, D21, D22, D26, E2.3, E10</td>
</tr>
<tr>
<td>Provide postanesthesia care, including medication management, conducting a postanesthesia evaluation, and discharge from the postanesthesia care area or facility</td>
<td>D5, D29</td>
</tr>
</tbody>
</table>

Table 3. Crosswalk Between AANA Scope of Nurse Anesthesia Practice and COA Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate

Abbreviation: COA, Council on Accreditation of Nurse Anesthesia Educational Programs.

In January 2014, the SRTF presented to the COA for approval the following documents: (1) draft 4 of the Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate, $^2$ (2) draft 4 of the Standards for Accreditation of Post-graduate CRNA Fellowships, $^3$ (3) the Policy and Procedures for Post-graduate CRNA Fellowship Accreditation, and (4) documents to support the procedures.

Timeline from Development to Implementation

The process of drafting the new Practice Doctorate Standards and Fellowship Standards began with a conference call in April 2011. Two additional conference calls, 9 face-to-face meetings, and 4 virtual meetings followed, culminating in draft 4 of the Practice Doctorate Standards and Fellowship Standards.

A subgroup of the SRTF conducted an additional virtual and face-to-face meeting to draft Research Doctorate Standards and Fellowship Standards. The SRTF reviewed and revised the Research and Fellowship Standards at a subsequent virtual meeting. The COA decided to table development of Research Doctorate Standards.

From the commencement of the project to its conclusion, the SRTF was guided by the COA’s Timeline for a Major Revision of the Standards. $^1$ The development of each draft was preceded by a request for comments from the community of interest. This was accomplished via online surveys, as well as announcements in the AANA NewsBulletin and AANA Anesthesia E-ssential, and on the COA’s website. Hearings and focus sessions were held at the 2012 and 2013 Assembly of School Faculty, Mid-Year Assemblies, Annual Meetings, and Leadership Academies. The AANA Education Committee conducted the hearings at the 2013 Assembly of School Faculty, Mid-Year Assembly, and Annual Meeting in conjunction with the SRTF and the COA.

Draft 2 of the standards was subject to a statistical analysis to assess the reliability and relevancy of the proposed standards. The analysis also identified potentially problematic items. The SRTF considered the results of the statistical analysis, along with community of interest comments, in preparing draft 3.

During the development of the standards, the SRTF made presentations at every COA meeting in 2012 and 2013. The final presentation at the COA meeting in January 2014 resulted in the adoption of draft 4 of the Practice Doctorate Standards and draft 4 of the Fellowship Standards.

Organization of Practice Doctorate Standards

The Practice Doctorate Standards are organized in 8 sections reflecting the major content areas. There is a single appendix containing clinical experience requirements. A glossary is included to define and clarify specific terms or concepts found in the standards.

Conducting Institution Standards address the mission and philosophy of the conducting institution to ensure congruence with the nurse anesthesia program being offered.
in a doctoral framework. The organizational structure, relationships, communication, and legal responsibilities are examined. The standards require an appropriate committee structure in which the CRNA program administrator participates. The institution must provide adequate resources to support the size and scope of the program, including financial, physical, learning, and faculty resources as well as support personnel and student services. The institution is required to evidence adequate resources and seek prior approval from the COA before increasing class size.

Faculty Standards address the required qualifications (eg, education, licensure, certification, recertification, experience) for the CRNA program administrator and assistant administrator, as well as other CRNA and non-CRNA faculty members. Program leadership is required to demonstrate knowledge of environmental issues that may influence the program. Core CRNA program faculty are required to have formal instruction in curriculum, evaluation, and instruction.

Student Standards require students to possess a baccalaureate degree, an unencumbered license as a registered professional nurse and/or APRN, and a minimum of 1 year of full-time work experience in a critical care setting. Students must benefit from the program and demonstrate professionalism. Accurate clinical experience logs are required. Both Advanced Cardiac Life Support and Pediatric Advanced Life Support are required before the student begins clinical activities.

Graduate Standards define the minimum abilities that all graduates must be able to demonstrate. The standards identify 6 areas of focus, including patient safety, perianesthesia, critical thinking, communication, leadership, and professional role. The doctoral curriculum must evidence that each graduate meets these standards upon graduation from the program.

Curriculum Standards require that programs award either the doctor of nursing practice or the doctor of nurse anesthesia practice degree unless the COA approves a waiver. The curriculum must include certain specific courses consistent with national trends, licensing authorities, certification entities, and specialty needs. Specific content areas are required in the curriculum, with quantified contact hours for some areas. Detailed clinical experiences are required for each graduate, as defined in the Practice Doctorate Standards appendix. Programs are required to include at least 3 years of full-time study with curricular constructs consistent with doctoral-level education.

Clinical Site Standards focus on the clinical sites where students obtain clinical experiences. Programs are required to evidence adequate clinical resources, binding legal contracts, and a coordinator for each clinical site. The learning environment must be conducive to learning with reasonable student time commitments. Clinical supervision of students is restricted to CRNAs and anesthesiologists in ratios not to exceed 2:1. Other credentialed experts, if authorized to assume responsibility for the student, may supervise students in nonanesthetizing areas.

Policy Standards focus on program policies. The standards require programs to maintain accurate educational records. All advertising must be truthful and accurate. The program is required to publish annually specific data such as attrition, employment rates, and first-time pass rates on the National Certification Examination offered by the NBCRNA. Policies must describe nondiscrimination practices, academic integrity, student disciplinary procedures, and due process. Programs are required to forbid employment of student registered nurse anesthetists as nurse anesthetists by title or function.

Evaluation Standards require a written systematic plan for continuous self-assessment that incorporates evaluative data from a variety of perspectives. Evaluation of students includes both formative and summative approaches. The students, faculty, and alumni evaluate the quality of the program. Employers evaluate the quality of the graduates. The students evaluate the quality of all learning experiences and the faculty. The program must demonstrate use of evaluative data to monitor and improve all aspects of the program.

Organization of Post-graduate CRNA Fellowship Standards

The Post-graduate CRNA Fellowship Standards are organized in 8 sections reflecting the major content areas. The Fellowship Standards allow for flexibility in the types of fellowships that may be accredited. For example, some fellowships may provide clinical learning experiences for CRNAs, whereas others may not. The length of fellowships will vary depending on the nature of the fellowship. A glossary is included to define and clarify specific terms or concepts found in the standards. The appendix contains information regarding the mission, purposes, and objectives of the COA as well as the value of accreditation and the associated processes.

Conducting Organization Standards require that the conducting organization clearly defines the fellowship and evidences adequate resources. Fellowships involving patient care are limited to CRNA fellows. The CRNA Fellowships must uphold the scope of practice and standards of care defined by the AANA as well as the certification requirements of the certification agency (ie, NBCRNA certification if available).

Faculty/Mentor Standards require the fellowship director and faculty/mentors to be credentialed experts
who are academically and experientially qualified. The faculty/mentors must demonstrate commitment to the fellowship and document evaluations of the fellows.

Fellow Standards require fellows to meet the admission criteria and hold any necessary licensures and/or certifications. Fellowships may admit only CRNAs or other APRNs who can benefit from the fellowship. Fellows are required to maintain accurate educational records, including clinical procedures if applicable. Fellows must demonstrate professionalism and integrity; CRNA fellows must subscribe to the AANA Code of Ethics for the Certified Registered Nurse Anesthetist.

Graduate Standards broadly define the abilities that graduates must demonstrate on completion of the fellowship. The standards require graduates to demonstrate achievement of the defined knowledge and skills as well as attainment of the objectives and outcomes identified by the fellowship.

Curriculum Standards require the fellowship design to impart knowledge and skills in a focused area of specialty or concentration. The fellowship specifies goals and objectives/outcomes for fellows. Fellowships must be of appropriate length and be learning oriented, not allowing service delivery or revenue generation to overshadow the learning experience.

Clinical Site Standards focus on the clinical sites if applicable. These standards apply only to fellowships offering a learning experience in a clinical environment. They require fellowships to evidence available patient populations and mentored experiences for fellows to achieve the stated goals and objectives/outcomes of the fellowship.

Policy Standards require fellowships to submit the Council on Accreditation of Nurse Anesthesia Post-graduate Fellowship Transcript to the COA, and provide a copy to the fellow, when fellows complete the fellowship. Fellowships must evidence truth and accuracy in advertising, assure that non-CRNA fellows do not misrepresent themselves as CRNAs, and function in accordance with state and federal guidelines.

Evaluation Standards focus on evaluation of the fellowship. The standards require fellows to evaluate the fellowship as well as their faculty/mentors and any clinical experiences if applicable. The fellowship is required to use evaluation data to improve the fellowship.

Implications for the Future
The Practice Doctorate Standards provide the foundation to advance nurse anesthesia education, practice, and the profession. Effective January 1, 2022, all newly enrolled students in nurse anesthesia programs must graduate with a doctoral degree. As of March 1, 2014, there are 27 nurse anesthesia programs approved by the COA to award doctoral degrees for entry into practice. Over the next 8 years, 87 programs will be required to transition to award doctoral degrees.

Challenges that programs will face in transitioning to doctoral education include obtaining qualified CRNA faculty, financial support, approval by university committees, and, in some cases, approval by state government and regional accreditation agencies. All CRNA program administrators and CRNA assistant program administrators in programs awarding doctoral degrees must possess doctoral degrees by 2018. The COA’s 2013 Annual Report data indicate 68% of program administrators and 43% of assistant administrators currently possess doctoral degrees.

The Practice Doctorate Standards provide the foundation for new graduates to enter into practice, and to develop advanced skills and abilities. The Institute of Medicine (IOM) has recognized that nurses should be prepared to participate in the public policy process required to transform the system of healthcare, ensure patient safety, and advance standards of care. The Practice Doctorate Standards support the IOM’s Report on the Future of Nursing and the educational requirements identified in the Consensus Model for APRN Regulation by requiring competencies that prepare graduates with the knowledge and skills to play a fundamental role in the development of future health policy and the transformation of the healthcare system. The Practice Doctorate Standards require that graduates have the ability to be leaders, collaborate interprofessionally, and advocate for health policy changes to improve patient care and advance the specialty of nurse anesthesia. Doctorally prepared graduates will have the knowledge and skills to establish a healthcare system that provides seamless, affordable, high-quality care that is accessible to all and that leads to improved health outcomes.

Nurse anesthesia practice is built on lifelong learning. The Fellowship Standards establish requirements for post-graduate fellowships that will provide advanced educational opportunities for CRNAs. Completion of COA-accredited fellowships will provide CRNAs with educational offerings to advance their practice and the nurse anesthesia profession. Fellowships can be in specialty practice areas such as pain management or pediatrics, or in nonclinical areas such as leadership and government relations. The COA’s accreditation of fellowships recognizes educational offerings that have met national standards. Following completion of a COA-accredited fellowship, specialty certification by the NBCRNA may be possible in some specialty areas.

The Practice Doctorate Standards and Fellowship Standards advance nurse anesthesia education, practice, and the profession by establishing standards for educational offerings.
that prepare graduates for entry into practice, and practicing CRNAs with the knowledge and skills to meet current and future healthcare needs. As healthcare evolves and new educational needs emerge, the Practice Doctorate Standards and Fellowship Standards will provide the foundation for CRNAs to care for patients to the full potential of their knowledge and skills.

REFERENCES

AUTHORS
Rebecca L. Madsen Gombkoto, CRNA, DNP, is the director of the Minneapolis School of Anesthesia and associate professor at Saint Mary’s University of Minnesota, Minneapolis, Minnesota. She served as the chair of the Standards Revision Task Force. Email: Gombkoto.msa@att.net.

James R. Walker, CRNA, DNP, FNAP, is director, Graduate Program in Nurse Anesthesia, and associate professor at Baylor College of Medicine, Houston, Texas. He is also responsible for directing nurse anesthesia services at Ben Taub General Hospital in Houston, TX.

Betty J. Horton, CRNA, PhD, FAAN, served as a consultant to the Standards Revision Task Force. She is the past director of education and accreditation for the American Association of Nurse Anesthetists and the Council on Accreditation of Nurse Anesthesia Educational Programs.

Denise Martin-Sheridan, CRNA, PhD, is professor at Albany Medical College, and former director, Center for Nurse Anesthesiology at that institution. She served as a member of the Standards Revision Task Force and is chair reviewer for the Council on Accreditation of Nurse Anesthesia Educational Programs, Park Ridge, Illinois.

Mary Jean Yahlonky, CRNA, MA, previously served as the chief nurse anesthetist, CS Mott Children’s Hospital and Von Voigtlander Women’s Hospital, University of Michigan, Ann Arbor, Michigan. She has been the clinical site coordinator for Oakland University-Beaumont Graduate Program of Nurse Anesthesia, Rochester, Michigan; University of Michigan-Flint/Hurley Medical Center Master of Science in Anesthesia Program, Flint, Michigan; and the University of Detroit Mercy Graduate Program of Nurse Anesthesiology, Detroit, Michigan.

Francis R. Gerbasi, CRNA, PhD, is the executive director of the Council on Accreditation of Nurse Anesthesia Educational Programs. He was previously the program director at the University of Michigan-Flint/Hurley Medical Center Nurse Anesthesia Program.

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