



White Paper

**Scholarly Work for Practice Doctorate Nurse Anesthesia Programs:
Current State and Guidance**

Report from the White Paper on Scholarly Work Special Interest Group

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Table of Contents

Executive Summary	3
I.	Background	4
II.	Current State of Scholarly Work	4
	Survey	
	Results	
	AANA Foundation Session and COA Focus Group	
	Highlights of AANA Foundation Session	
	Highlights of COA Focus Group	
III.	Scholarly Work Guidance and Recommendations	9
	CRNA Faculty Oversight of Scholarly Work	
	Title: “Scholarly Project”	
	Elements of Scholarly Work	
	Identify	
	Search, analyze, synthesize	
	Literature reviews	
	Develop	
	Plan for Implementation	
	Project example with implementation	
	Project example without implementation	
	Evaluation of Scholarly Project	
	Dissemination of Scholarly Project	
	Team Projects	
	Academic Portfolios	
	Original Research	
	Resources	
	Faculty Rank and Promotion	
IV.	Future Scholarly Work	12
V.	Literature and Scholarly Work	12
VI.	Other Practice Doctorates	13
VII.	Summary	13
	Appendix A – Definitions Regarding Scholarly Work	
	Tables	
	1. Types of Scholarly Work (Project) Required	
	2. Methods of Dissemination	
	3. Group Project Evaluation Methods	
	4. Other Practice Doctorates	
VIII.	References	28
IX.	Acknowledgements	30
	a. White Paper on Scholarly Work Special Interest Group (SIG)	

Executive Summary

The *Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate* was adopted by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA) in January 2015. Balancing academic and clinical preparation for doctoral students, preparation for the National Certification Examination, and scholarly work represents a significant challenge for students, faculty and programs.

With the majority of nurse anesthesia programs having transitioned to the practice doctorate, the COA was in a pivotal position to 1) examine the current state of scholarly work and 2) produce a White Paper to guide programs' development of criteria for scholarly work as defined in the *Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate* (COA, 2018).

To inform the guidance contained in this White Paper, nurse anesthesia educators provided input via a survey, a focus group at the 2019 Assembly of Didactic and Clinical Educators meeting, and an active discussion and question-answer session during the assembly. Survey data along with highlights of the focus session and the discussion and question-answer session are included. A Call for Comments was also sent to stakeholders for review and comment on the draft White Paper.

The survey data and educator input formed the foundation for the guidance recommended for programs regarding scholarly work. Guidance regarding titling the work and key elements include: problem identification, searching and analyzing the literature, developing a strategy to address the problem, implementing the strategy, evaluating the doctoral project and disseminating the doctoral project.

This White Paper also addresses topics such as the use of student teams to complete the scholarly work, literature reviews, academic portfolios, original research, resources and implications of participation on student projects for faculty workload, and meeting professional rank and tenure requirements. Recommendations for future scholarly work along with pertinent literature and a comparison of scholarly work required for other practice doctorates are included.

The guidance set forth in the White Paper in no way supersedes institutional and/or other accreditor requirements. The aim of this guidance is to aid nurse anesthesia programs in successfully managing scholarly project curriculum.

I. Background

The *Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate* was adopted by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA) in January 2015.

A challenge for nurse anesthesia educational programs awarding practice doctorate degrees for entry into practice is ensuring that there is an appropriate balance of scholarly work and academic/clinical education requirements for students. Programs aim to formulate curricula which underscore the goal of graduating students who have acquired entry-into-practice competencies, upon which nurse anesthetists continue to build their knowledge, skills and abilities along the practice continuum beginning at graduation (proficient) and continuing throughout their entire professional careers (expert) (COA, 2018). Nurse anesthesia educational programs require complex didactic academic coursework and a minimum of 2,000 hours of clinical training, during which students must also prepare for the National Certification Examination (NCE). The implementation of a meaningful scholarly project in the context of this rigorous educational milieu imposes challenges on both students and faculty.

At its October 2018 meeting, the COA finalized the appointment of the White Paper on Scholarly Work Special Interest Group (SIG) to examine the wide variation in types of scholarly projects as well as project rigor. This was in response to requests from nurse anesthesia programs for the COA to provide guidance in the requirements for scholarly projects. The standards related to scholarly work and the corresponding glossary definitions for scholarly work and scholarship skills are included in Appendix A to this White Paper (COA, 2018). The charges of the SIG included: 1) survey programs to identify the current state of scholarly work in doctoral-level nurse anesthesia programs, and investigate the requirements and scholarly work of other disciplines that award a practice doctorate, and 2) produce a White Paper to guide programs' development of criteria for scholarly work as defined in the *Standards for Accreditation of Nurse Anesthesia Programs: Practice Doctorate*. Standards that apply to scholarly work include Standard D. Graduate Standards (Professional Role) and Standard E. Curriculum Standards (Research).

II. Current State of Scholarly Work

In November 2018, a survey instrument was developed by the SIG. The purpose of the survey was to identify the current state of scholarly work for nurse anesthesia programs approved to offer practice doctorates. Prior to emailing the survey link, the survey was vetted by the Louisiana State University Health Sciences Center Institutional Review Board (IRB) to assure human subject protections for participants. It was determined that no approval was needed as long as responses and participants were kept confidential and anonymous. Preliminary survey results were presented to participants at the February 2019 Assembly of Didactic and Clinical Educators (ADCE) meeting, resulting in an active discussion and question-answer session. A faculty focus group session was also held at the same meeting. The focus group addressed key items including the vision for scholarly work, examples of scholarly work and examples of what is not considered to represent scholarly work in practice doctorate programs. Lastly, a Call for Comments survey addressing the White Paper draft was sent to program administrators, deans, and members of the AANA and NBCRNA Boards of Directors.

The purpose of this White Paper is two-fold: 1) to provide results from the survey and focus session from which educators can observe the common issues and struggles faced by students, faculty and programs, and to propose some solutions, and 2) to offer guidance to programs about what scholarly work may look like in nurse anesthesia programs. The guidance does not represent mandates or requirements by the COA, but rather provides clarification that may be beneficial to programs.

Survey

The initial survey was sent to all programs offering an entry-level doctorate or completion degree program for CRNAs (89 programs) on January 15, 2019 with a follow-up on January 22, 2019. The survey closed on January 30, 2019. An impressive 51 (57%) programs responded to the survey.

Results

- Responses were reported by 34 (67%) programs in schools or colleges of nursing and 17 (33%) housed in other units (Colleges of Health Sciences, Health Professions, Biology; Schools of Medicine; Colleges of Business: Healthcare Administration and Management; Schools of Natural Sciences, Mathematics, and Computing; and Graduate Studies).
- Evidence-based practice projects (Table 1) were the primary type of scholarly work offered by the respondents. A few programs required original, retrospective and IRB-approved research (2-4%); practice change initiatives (4-8%); a portfolio (1-2%); or a literature review (1-2%). Forty-one (80%) of the programs reported they had flexibility in designing the scholarly work project while 10 (20%) did not (the project criteria are controlled by the parent organization).
- An implementation component of scholarly work was required by 38 (75%) programs, while dissemination was required by nearly all programs (98%). Dissemination methods were varied (Table 2). The methods reflected program, college and/or university requirements. While there were 50 responses in total regarding dissemination, there were multiple responses by some programs.
- Programs reported that the number of faculty needed to support scholarly projects ranged from 1-12 (mean 2.4). The data however did not account for full- or part-time faculty status. Per academic year, an average of six projects per faculty member were reported (range 2-18). Doctoral degree credentials were required for faculty participating in scholarly work (DNP, DNAP, DNSc, EdD, PhD, MD). Faculty contact hours in support of scholarly projects were a mean of 61, a maximum of 400, and mode of 30-40 hours.
- Initial approval for a proposed project was completed by committees (36); individuals (11); or other course-assigned faculty members. Final approval for projects included committees (39); individuals (8); or other (4) methods including department or program chair or course faculty.
- Individual and team project composition was reported by programs. Student team size ranged from 2-4 students. Some teams were self-selected. Variables for the team size included the type and complexity of the project, scope, learning outcomes, mission, interprofessional collaboration, and the number of students at clinical sites. Team project evaluation methods varied (Table 3). There was a total of 28 responses to this item; some programs offered multiple responses.
- Eighteen (35%) of the respondents shared that participation in scholarly projects had an impact on rank and tenure of faculty. Colleges and universities differ regarding how faculty who mentor scholarly work receive credit. Faculty may receive credit for teaching, scholarship and/or service.

AANA Foundation Session and COA Focus Group

The AANA Foundation held a general session at the February 2019 ADCE to discuss scholarly work projects. Shari Burns, EdD, MSN, CRNA, chair of the SIG, facilitated the session which lasted more than two hours and yielded an abundance of feedback from program administrators and faculty. There were approximately 200 participants.

The 90-minute faculty focus group session was facilitated by the COA on the day after the AANA Foundation session. The focus session was open to all faculty attending the ADCE. More than 50 participants attended the session. The COA definitions of scholarly work and scholarship skills were discussed (COA, 2108). Both the general session and the focus session yielded substantive feedback for development of this White Paper. While the response rate to the survey was excellent due to the large number of attendees at the ADCE, additional rich data was acquired from the sessions.

Highlights of AANA Foundation Session

The Foundation session included a substantive discussion covering multiple topics.

Some nurse anesthesia educational programs assign topics to their students while other programs allow students to select topics. Programs that allow student selection cited the desire to develop leaders and problem-solvers while nurturing skillsets highlighting creativity and analysis. Educators speculated that the doctoral degree was just the beginning of a career and raised the question, “What should students take away from the practice doctorate?”

Creating future leaders with skills to address clinical problems requiring change represented an approach to better understanding the aim and scope of practice doctorate scholarly work. For example, identifying a clinical issue, searching the literature, coming up with viable solutions and presenting the information in an executive summary offers one approach.

Programs with strong resources continue to undertake collaborative work with bench research approaches to scholarly work.

Some programs are prescriptive while other programs offer latitude in the project type, scope and topic selection.

Multiple programs described extending a project over more than one cohort; that is, students or teams in subsequent classes might continue to pursue the aims or goals of the project.

Programs seemed uniformly concerned about overcrowding clinical sites with scholarly work projects. However, clinical sites indicated that they value these projects.

The IRB submission process poses challenges. Some universities and/or programs, as well as hospitals, require all projects to be submitted to the IRB. Work overload for all stakeholders is a consideration. Some programs struggle with submission of quality improvement (QI) projects to IRBs which may be unfamiliar with QI projects. Other programs struggle to determine whether QI projects need IRB approval.

Project writing presents challenges, as entering undergraduate students may have insufficient writing skills. Editorial work can be burdensome for faculty. Some programs hire editors or use writing resources in the community or institution to assist with the burden.

Some programs mentioned that the Standards for Quality Improvement Reporting Excellence (SQUIRE) Guidelines are used as guidance for projects. These writing guidelines, first published in 2008, offer guidance to improve the accuracy and clarity of written reports on the quality and safety of healthcare (Davies, Batalden, Davidoff, Stevens and Ogrinc, 2015; Goodman et al., 2016).

Other barriers to scholarly project work reported by the attendees include misaligned expectations by PhD, EdD, DNP and DNAP faculty. For example, the opinion was expressed that a “140-page dissertation-type” project does not match the purpose of scholarly work for a practice doctorate.

For entry-level programs, balancing academics and clinical education remains a challenge. Spending time on scholarly work rather than studying for the NCE was underscored. Taking students out of clinical education to work on projects created concern for educators. Creating a “practice scholar” through the practice doctorate remains the goal.

The use of portfolios was raised. The suitability of portfolios containing some of the evidence developed by the scholarly project was compared to portfolios containing only curricular items (e.g., papers unrelated to the scholarly project, journals, clinical case numbers).

Other ideas were offered such as pairing an SRNA with a completion degree CRNA. Both may benefit from such teamwork.

Highlights of COA Focus Group

The COA focus group explored 3 questions:

1. *What is the vision for scholarly work (projects)?*

The practice doctorate results in a skilled clinician, but also represents a graduate who is prepared to use scholarly work skills, leadership and teamwork to advance practice. Scholarly work skills include problem identification; seeking, applying, appraising and translating evidence; determining strategies for change; creating new policies and procedures; implementing such changes (if feasible); and sharing (disseminating) the scholarly work products with others.

The evidence-based process informs and improves clinical and educational practice. The skillset derived from the process is as important as the product. Inspiring students to use the skillset following graduation is key to promoting future scholarly work as clinicians.

The required scholarly work should involve reasonable scope and time commitment in the context of practice doctorate nurse anesthesia educational programs, be achievable, and inform practice. Including teams to address gaps in practice and clinical or educational issues fosters leadership development while moving through the scholarly work process. Teamwork is foundational to anesthesia practice.

2. *What key elements should be included in scholarly work?*

Although the key elements identified by the focus group mirrored the choices offered in the survey, the group discussion provided additional insights. Project types may vary, but the following elements were identified as significant to all scholarly work.

- Problem identification (clinical, educational, professional)
- Retrieval, review and analysis of existing evidence from the literature
- Developing a strategy to address the problem
- Implementation (actual vs simulated): Because of the breadth and scope of some projects, not all projects may be implemented. This is particularly true for projects aimed at changes in practice, educational strategies, or administrative policies. While the student may generate the underpinnings of change based on evidence and analyses, executing the change may continue well past the student's graduation. Later student cohorts may implement changes suggested in the initial scholarly work.
- Dissemination in some form (COA requirement)

Dissemination Options

- Continuing education offering
- Poster
- Submission for publication
- Executive summary
- Institutional requirements
- Oral defense

Examples of Final Project Types

- Final Paper
- Publication-ready manuscript
- Platform presentation (national, state, local meeting)
- Virtual presentation

3. What is an example of something that would *not* be a key element of a scholarly work?

An example of what would ***not*** be a key element of scholarly work is a literature review that lacks applicability to affect practice improvement. In contrast, a review of the literature inclusive of an appraisal with implications and/or recommendations for practice offers greater breadth, depth and scope. One student may undertake and complete such a review; a follow-up student may then use the reviewing the work for policy development.

III. Scholarly Work Guidance and Recommendations

Based on the work of the SIG, the COA puts forth the following guidance. Scholarly work is specifically linked to the definitions of Scholarly Work and Scholarship Skills (Appendix A) contained in the COA Standards.

CRNA Faculty Oversight of Scholarly Work

While CRNA and non-CRNA faculty involvement in the scholarly work development process may vary depending on the project scope or on the requirements of the institution, college/school or program, faculty with a CRNA credential ***must*** be involved in the process of planning, formation and evaluation of each scholarly project.

Title: “Scholarly Project”

The term *dissertation* conveys research-oriented work consistent with PhD and EdD degrees. The term *capstone* is used in high school and middle school, or at the end of an academic program.

The title “Scholarly Project” speaks to the unique application of work required to attain the practice doctorate. Using terminology consistent with the degree focus is recommended, i.e. DNP project, DNAP project, scholarly project.

Elements of Scholarly Work

To satisfy the requirements of practice doctorate training, scholarly work represents an evidence-based inquiry process using *scholarship skills* resulting in an academically sound product to improve clinical practice. Original research is typically reserved for research doctorates; however, some programs may require original research.

The scholarly work for students in a nurse anesthesia program that awards a practice doctorate should include the following steps:

- **Identify** a problem related to nurse anesthesia practice (clinical, educational, professional).
- **Search, analyze and synthesize** existing evidence (literature search skills and critical thinking).
- **Literature reviews** are a requirement for all projects. A review of the literature inclusive of an appraisal with implications and/or recommendations for practice offers breadth, depth and scope **to a project**. For example, a student may complete a literature review, analysis and synthesis focused on CRNA involvement in professional associations. Another student may address this same topic focusing on state policy development. Stand-alone literature reviews without analysis serve as a platform for a project but fall short of the other elements of scholarly work.
- **Develop** a strategy or method to address the problem (demonstrating problem solving and critical thinking).
- **Plan for Implementation** of the strategy or method to be used to address the problem. It is acknowledged that not all projects can be implemented due to breadth or scope. For example, projects aimed at changing practice, educational strategies or administrative policies may not be implementable because of their breadth or scope, yet they still have value as an initial examination and analysis of a problem. Therefore, while the student may generate the foundations of change based on evidence and analyses and **propose** methods for implementing the change, executing the change may require time, resources and committee approvals well past the student’s graduation. As evidenced by the SIG survey, foundation session, focus group, and Call for Comments survey, scholarly projects can be extremely varied.
- **Project example with implementation**
 1. Registered nurses may lack knowledge and training regarding malignant hyperthermia protocols throughout a multi-facility hospital system. Administration of a pre-test to determine baseline knowledge would precede an in-service education program; following the in-service a post-test to evaluate gains in knowledge would form the foundation of the project. Implementation of new educational requirements result.
 2. Implementing oral didactic testing in an entry-level nurse anesthesia educational program may be initiated based on a project dedicated to testing comparisons.

- **Project example without implementation**

1. Issue: Improving patient safety by changing current monitoring practices for patients receiving peripheral nerve blocks (PNBs). To address this issue a student may search for, analyze and apply evidence to create a hospital policy for patients receiving PNBs. However, implementing the policy requires multiple levels of approval as well as staff education. Time constraints of the entry-level or completion-degree CRNA may preclude full implementation.
2. Projects with a very large scope may be extended from one cohort to the next. It may not be feasible to implement the initial project. Narrowing the scope of the project is advisable, but is not always feasible depending on the project topic.

Evaluation of Scholarly Project

Evaluation of scholarly work **may** include a combination of methods including faculty, expert and/or peer evaluation. Programs tailor scholarly work evaluation and approval processes per university, department, program or committee requirements.

Dissemination of Scholarly Project (COA Required)

Dissemination of rigorous scholarly work contributes to the profession. Dissemination methods depend on the program or institution and may include a combination of methods. Dissemination includes a final written product that is presented to stakeholders at the university or at a local, state or national meeting. Other methods for disseminating the scholarly product to multiple stakeholders may include: poster presentations; manuscript under review and/or submission for publication; in-service education; or podcasts.

Consider avoiding the term 'defense' in the final presentation of a completed practice doctorate project. The term is commonly applied to approval for the research-oriented doctorate.

Team Projects

Some programs faced with an ever-increasing number of projects are opting to incorporate the multifaceted engagement of a team approach to complete scholarly work. Through this approach, students can gain essential teamwork skills. For faculty members, a major benefit of the team approach is a reduced number of projects they must oversee; likewise, survey and project fatigue may be lessened for all involved, including survey recipients. The team approach also helps address concerns expressed by clinical site coordinators about the potential for scholarly work to take away from clinical activities. Clinical sites can be overwhelmed with multiple on-going projects.

A clear delineation of requirements for team projects is recommended. Some programs also recommend the use of learning contracts for team members wherein the team members delineate responsibilities for the project. Team composition may vary by project requirements and institutional needs. For CRNAs completing a practice doctorate, interprofessional collaboration may be advantageous. The American Association of Colleges of Nursing (AACN) published guidance regarding teamwork in the DNP Tool-kit (2019).

Academic Portfolios

Academic Portfolios chronicle student accomplishments throughout the program which may include scholarly work, student papers, case numbers, reflections, presentations, etc. Scholarly work may be included in the portfolio. If used as a project tool, portfolios are useful for organizing material and allowing students to view the scope of their topics. The portfolio should be a tool to enhance the presentation and understanding of a project, but not be considered the sole deliverable product of the project.

Original Research

Research to develop new knowledge is historically viewed as work within the PhD domain, and therefore is not viewed as a requirement for the practice doctorate scholarly project. Programs may provide this as an option for exceptionally motivated students, but requiring original research is not necessarily consistent with the aim of the practice doctorate.

Resources

Scholarly projects require faculty input as a source of expert guidance and oversight. Faculty workload inclusive with teaching, clinical practice, community service, and scholarship pose challenges; mentoring scholarly projects adds to the already heavy workload. A significant component of faculty workload, mentoring scholarly projects is essential to the practice doctorate curriculum for the program. Programs should consider this academic workload when planning practice doctorate education to ensure hiring an adequate number of faculty with the appropriate background to meet this need.

Faculty Rank and Promotion

Faculty participation in doctoral projects in many institutions is considered scholarship, teaching and/or service. The diversity of approaches to awarding promotions, rank and/or tenure to faculty based on their work in scholarly projects can be beneficial.

IV. Future Scholarly Work

Suggestions for assessing and evaluating how the evolving nature of practice doctorate projects may impact the practice of nurse anesthesia include the following:

1. Survey CRNAs with practice doctorates to determine how scholarly work influences their practice.
2. Survey practice-doctorate CRNAs to determine how they are using scholarly work skills post-graduation.

V. Literature and Scholarly Work

Kirkpatrick and Weaver (2013) reported on dialogue regarding DNP projects that took place among participants at the Committee on Institutional Collaboration DNP Invitational Conference. The focus of the dialogue was to discuss the DNP project's intent and breadth, demonstration of competencies, and similarities and differences to the PhD dissertation. One question asked was related to the value of the time and energy expended by faculty on the DNP project. In responding to this question, the group noted the following benefits for faculty:

- Recognition resulting from product dissemination
- Matching project topics with faculty interest and expertise
- Student mentorship (meets an expectation of faculty role)
- Contribution of project to scholarship (meets an expectation of faculty role)

The literature regarding faculty workload when supervising graduate nursing students' DNP projects is limited. Lobo and Liesveld (2012) conducted a study to describe workload assignments for graduate nursing faculty supervising both research and advanced clinical nursing students. A survey was sent to 617 nursing school administrators via email and the response rate was 126 (26%). Of the 36 administrators who responded to a question about whether they give workload credit for DNP project supervision, 22 (61%) confirmed that they did.

Sebastian and Delaney (2013) examined opportunities for faculty teaching in DNP Programs noting that DNP faculty may need different strategies for teaching, scholarship and service due to the focus on translation of science into practice. The authors noted that roles for DNP faculty align with the broader conceptualizations of scholarship consistent with the Boyer Model (Boyer, 1990; Boyd, 2013). The expanded view of the Boyer Model (scholarship of discovery, integration, application, and teaching and Learning) was evidenced in a rank and tenure analysis for faculty (Crow et al. 2018). The relevance of the Boyer Model for faculty charged with mentoring scholarly projects underscores that universities and colleges consider all forms of scholarship for faculty advancement. Further, "promotion and tenure policies should accommodate newer forms of scholarship if DNP prepared faculty are on tenure tracks" (Sebastian and Delaney, 2013, p. 454).

In addition, DNP prepared faculty should be afforded opportunities to develop in the tripartite role (teaching, scholarship and service) aligned with the institution's mission (Sebastian and Delaney, 2013). The dissemination of DNP projects and the application of existing knowledge into practice should be considered as scholarship for the DNP prepared faculty, and participation on DNP projects would meet this faculty role requirement. Finally, when academic rank promotion requires the faculty to demonstrate mentorship, participation on DNP projects would meet this requirement. Mentoring focuses more on "long-term relationships, role development, and the development of scholarship," which would be consistent with the faculty role of serving on a DNP project (Sebastian & Delaney, 2013, p. 457).

There is tension among DNP prepared faculty and PhD prepared faculty regarding available resources. Specifically, PhD faculty are relied upon in some schools to teach and advise DNP students, which limits the time they have available to devote to research endeavors needed for promotion and tenure (Staffileno, Murphy, and Carlson, 2016). Further, the lack of standardization regarding the rigor of practice doctorate projects leads to confusion among faculty members and limits collaboration among PhD and DNP prepared faculty (Staffileno et al., 2016). Supporting the development and collaboration of DNP and PhD prepared faculty on practice doctorate projects can facilitate rank promotion and promote the development of a community of scholars. As well, Murphy, Staffileno, Hinch and Carlson (2018) identified multiple factors including project area of interest, advisor experience and faculty workload as significant to matching a mentor to a student's project. The need for development of faculty working with doctoral students was highlighted.

While the purpose of scholarly work for the practice doctorate has been defined (Hogan, 2018), differentiating quality improvement projects from other research activities poses challenges for some faculty and programs. Resources to assist with these challenges include work by Ogrinc, Nelson, Adams and O'Hara (2013) and Foster (2013). The U.S. Department of Health and Human Services (HHS) Office for Human Research Protections provides the latest guidance to determine if a project requires IRB approval (HHS, 2019).

VI. Other Practice Doctorates

Requirements for scholarly work in other practice doctorates was explored. Table 4 presents a review of 18 other practice doctorates in health-related professions that demonstrate a variety of approaches to and interpretations of scholarly work as a culmination of the academic program. However, the table is intended to be an overview and not an exhaustive analysis of the various programs. The respective accreditation organization standards applicable to doctoral degree scholarly work are displayed in column three, and additional descriptive information or interpretation of standards are displayed in column four. All require a variety of courses such as a review of the respective practice literature, research design, and quantitative statistics, concluding with a project and/or written report specific for each professional field of study with application to current practice. In some fields of study such as the Doctor of Health Informatics (DHI), Doctor of Medical Science (DMSc), and Doctor of Social Work (DSW), a doctoral degree is not required for entry to practice but is considered enhancement of professional stature and contributes to the body of knowledge for those professions. In these three examples, there are currently no accreditation standards within the scope of the respective accrediting organizations, but information related to awarding of a doctoral degree is provided in column four as explanatory details.

VII. Summary

This white paper strives to present the status of the scholarly work project requirements in practice doctorate programs of nurse anesthesia. It is the hope of the COA that program educators will find this information useful as the practice doctorate education for nurse anesthetists continues to evolve. Graduate programs to educate CRNAs are rapidly moving into the practice doctorate framework. This move has the potential to advance the profession, but presents numerous challenges to faculty and students. As an integral component of practice doctorate curricula, faculty must guide and mentor students as they engage in scholarly work. Programs should strive to assure that this faculty contribution is recognized as a source of support for academic advancement, not as an extra responsibility. Students must create a meaningful evidence-based inquiry project or scholarly work intended to improve practice quality, while engaging in long clinical training hours and attending to concurrent academic coursework. The most desirable outcome of practice doctorate training will be to produce clinical scholars with skillsets that enable them to identify practice problems, explore the relevant scientific literature, and devise and test solutions in a skillful and engaged manner.

Appendix A

Standards for Accreditation of Nurse Anesthesia Programs—Practice Doctorate Standards and Definitions (Council on Accreditation of Nurse Anesthesia Educational Programs, 2018).

Standards Regarding Scholarly Work:

D. Graduate Standards:

The graduate must demonstrate the ability to:

48. Disseminate scholarly work.

E. Curriculum Standards:

8. The curriculum requires the student to complete scholarly work that demonstrates knowledge and scholarship skills within the area of academic focus (see Glossary, "Scholarly work" and "Scholarship skills")

Definitions Regarding Scholarly Work:

Scholarly Work

The doctoral program culminates with the completion of a **scholarly work** that demonstrates the ability to translate research findings into practice. This is an opportunity for the student to prepare a substantial final written work product, applicable to nurse anesthesia practice, that reflects the breadth of skills and knowledge the student has gained throughout the program of study. The final written work product may be in the form of a manuscript submitted for publication, a poster presented at a national meeting, design of an innovative clinical practice model, or other effective means of dissemination. The structure and process of the scholarly work will vary according to the requirements of the governing institution and conform to accepted educational standards at the practice doctorate level.

Scholarship skills include but are not limited to the ability to perform extensive literature searches, critically appraise the available research evidence, synthesize information from diverse formats and sources, and cogently express understanding of complex concepts in both verbal and written forms, all while demonstrating high professional, personal, and intellectual integrity.

Tables

Table 1. Types of Scholarly Work (Project) Required

Responses	N	Percent
Evidence-based practice project	14	27%
Quality improvement project	4	8%
Literature review	1	2%
Research projects (original, retrospective and IRB approved)	2	4%
Practice change	4	8%
Portfolio (all doctoral papers generated in courses, case numbers from Typhon records, care plans, self-reflections, case studies, posters)	1	2%
Choice(s) (see Table 2)	12	24%
Other responses (DNP, DNAP project, capstone, poster)	13	25%

Table 2. Methods of Dissemination

Responses	N	Percent
Poster (university, program and/or state, national meeting)	20	40%
Student choice	15	30%
Podium (program and/or state, national meeting)	14	28%
Defense (program, university and/or public-CE offering)	7	14%
Publication submission (optional vs required)	7	14%
Repositories (university, Sigma Theta Tau)	3	6%
DNP symposium	2	4%
Brochure	1	2%
Video	1	2%
Clinical site presentation	1	2%
AANA learning module	1	2%
Voice-over slides for international training programs	1	2%
Handbook	1	2%

Table 3. Group Project Evaluation Methods

Responses	N	Percent
Separate assessment	7	25%
Evidence of individual contributions	7	25%
Cloud storage documents track individual contributions	4	14%
Assignment elements are assigned	3	11%
Self-evaluation	2	7%
Peer-evaluation	2	7%
Individual submissions	2	7%
Rubric	2	7%
Combines individual writing assignment followed by final group project	1	3%
Systematic reviews: primary and secondary reviewer; students switch roles	1	3%

Table 4. Other Practice Doctorates

Profession	Degree	Accreditation Organization/Standard	Descriptions/Comments
Acupuncture	DAc	<p>ACAOM (Accreditation Commission for Acupuncture and Oriental Medicine) Criterion 7.04. Professional Development Domain 3: Incorporating Scholarship, Research and Evidence-Informed Practice into Patient Care. (Professional and Post-Professional Doctoral Level Competences)</p> <p>The student must demonstrate the ability to: A. describe evidence-based medicine and evidence-informed practice; and differentiate between the two. B. describe data collection methods to facilitate information dissemination in the field. C. assess research, including hypothesis, design, and methods, both qualitative and quantitative. D. describe the role and purposes of outcomes research. E. modify treatment plans and protocols using new information from current quantitative and qualitative research. F. use evidence-based medicine and/or evidence-informed practice to improve the patient care process.</p> <p>Criterion 7.08. Clinical Research Projects.</p> <p>A. The doctoral program must require students to demonstrate the achievement of professional competencies as outlined in Criterion 7.04 by completing an acceptable clinically oriented research project. The project must demonstrate the necessary knowledge and skills for designing and critiquing approaches to systematic inquiry and the use of qualitative and/or quantitative methods. Clinical research projects may include, but are not limited to theoretical analysis, surveys or analyses of archival data, outcomes research, systematic, qualitative investigations, public policy issues, case studies, evaluative research, interpretive translation research, or educational research – professional and patient. B. The products from clinical research projects must</p>	<p>The scope of Doctor of Acupuncture and/or Oriental Medicine programs take the form of non-degree and graduate degree programs, including professional doctoral programs, as well as freestanding institutions and colleges of acupuncture and/or oriental medicine.</p>

		meet academic form and style standards suitable for peer-reviewed professional publications. C. The program must develop a comprehensive, faculty committee-based review process for the clinical research projects that includes, at a minimum, evaluation of: the research interest, ethical issues, and methods of addressing such in the research, data gathering methods, progress toward completion, and final project content, format and delivery.	
Audiology	AuD	<p>ACAE (Accreditation Commission for Audiology Education) Standard 25: Student Research & Scholarly Activity</p> <p>The program must demonstrate that students have knowledge of the fundamentals of research and research design, enabling them to read the professional literature and understand and critically evaluate the concepts related to evidence-based practice. The students must be critical consumers of research and be able to apply this knowledge in evidence-based practice.</p>	<p>Description: Standard 25 requires that programs demonstrate that graduates can be consumers of research. The focus of this standard is being able to apply contemporary research to clinical practice as a key component of evidence-based practice. Programs can utilize both didactic and clinical experiences to demonstrate compliance with this standard. For example, literature reviews as part of a course assignment, case-based reviews, projects, creation of evidence-based protocols and, if the program wishes, involvement of students in conducting an actual mentored experiment, could help demonstrate compliance with this standard.</p>
Behavioral Health	DBH	<p>ACHC (Accreditation Commission for Health Care)</p> <p>This accreditation organization is linked to this doctoral degree but accredits only agencies with standards specifically for the behavioral health setting in the home care and alternate site healthcare industry. Their customized standards are written for ease of understanding with realistic expectations for daily operations. The Centers for Medicare & Medicaid Services (CMS) has established provider requirements for Home Health, Hospice, Private Duty, and Durable Medical Equipment, Prosthetics, Orthotics, and Suppliers (DMEPOS) agencies that participate in the Medicare program. For certain programs and services, Medicare requires organizations to become accredited by an</p>	<p>Doctor of Behavioral Health is a non-licensure professional doctoral program in which students gain the leadership, management, consulting, and entrepreneurial skills to advance their career in diverse behavioral health settings. Typically, the academic programs require that students complete an independent, applied practice-based project exploring a behavioral health issue or problem, and network with faculty members and other doctoral students through a project residency.</p>

		approved accreditation organization like ACHC before they can participate with Medicare.	
Chiropractor	DC	CCE (The Council on Chiropractic Education) Meta-Competency 6 – Information and Technology Literacy: Information literacy is a set of abilities, including the use of technology, to locate, evaluate and integrate research and other types of evidence to manage patient care. Curricular Objective: A. Locate, critically appraise and use relevant scientific literature and other evidence. Outcomes: 1) Use relevant scientific literature and other evidence to inform patient care.	Doctor of Chiropractic Medicine. Focus is on clinical practice techniques and behaviors, and clinical competency. Research may be conducted by faculty and optional for interested students.
Dentistry	DDS/DMD	CDA (Commission on Dental Accreditation) Standard for Dental Education Programs (DEP): 2.10. Critical Thinking. Graduates must be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology. Examples include writing assignments that require students to analyze problems and discuss alternative theories about etiology and solutions, as well as to defend decisions. Demonstration of the use of active learning methods, such as case analysis and discussion, critical appraisal of scientific evidence in combination with clinical application and patient factors, and structured sessions in which faculty and students reason aloud about patient care. Advanced Education in General Dentistry (AEGD): 2.9. Residents must be given assignments that require critical review of relevant scientific literature. Intent: Residents are expected to have the ability to critically review relevant literature as a foundation for lifelong learning and adapting to changes in oral health care. This should include the development of critical evaluation skills and the ability to apply evidence-based principles to clinical decision-making.	Doctor of Dental Surgery or Doctor of Medical Dentistry. Emphasis for accreditation standards is on practice skills and clinical residency programs. Although critical thinking and evidence-based practice methods are required, there is no scholarly project.

Health Informatics	DHI**	CAHIIM (Commission on Accreditation for Health Informatics and Information Management Education) – Scope of accreditation is associate, bachelor’s and master’s degree programs.	Advanced practice doctorate programs seek to translate evidence from original research, evaluate current practices, and utilize critical thinking to accelerate the adoption of best informatics practices in clinical and healthcare organizations. Rather than write a dissertation for the culminating project, a DHI program requires a large-scale translational practice project that students must complete in a healthcare organization. A project evaluation report is to be written on completion of the translational practice project and disseminated through a presentation of the translational project findings in an oral session.
Health Science	DHSc/DHS**	No recognized program accreditation organization	Doctor of Health Science programs are designed for those who want to expand their master’s degree level subject expertise with broad-based knowledge needed to translate research evidence into real world practice. These programs differ from a PhD which focuses on a narrowly defined discipline and the pursuit of conducting research to advance knowledge within that discipline. A DHSc/DHS prepares students to be a leader in healthcare as an educator, administrator, member of a research team or advocate for best practices in healthcare. Typically, programs have 8-10 credit hours in scholarship including foundations in scholarly inquiry and writing in health sciences research. Strategies for approaching writing assignments and preparation for dissertation research and manuscript writing are practiced. A final research practicum (1-6 credit hours) prepares the student for dissertation research through faculty-supervised research experiences: development of the research question, literature review, design and method, IRB, grant writing, subject recruitment, instrumentation, measurement, data collection, data analysis, interpretation of results, and/or dissemination of results.

Medicine	MD	<p>LCME (Liaison Committee on Medical Education)</p> <p>The LCME is jointly sponsored by the Association of American Medical Colleges (AAMC) and the American Medical Association (AMA). LCME accredits medical schools.</p> <p>LCME Functions and Structure of a Medical School. Standard 6: Competencies, Curricular Objectives, and Curricular Design. 6.3. Self-Directed and Life-Long Learning. The faculty of a medical school ensure that the medical curriculum includes self-directed learning experiences and unscheduled time to allow medical students to develop the skills of lifelong learning. Self-directed learning involves medical students' self-assessment of learning needs; independent identification, analysis, and synthesis of relevant information; appraisal of the credibility of information sources; and feedback on these skills.</p> <p>Standard 7: Curricular Content. 7.3.</p> <p>Scientific method/Clinical/Translational Research. The faculty of a medical school ensure that the medical curriculum includes instruction in the scientific method and in the basic scientific and ethical principles of clinical and translational research, including the ways in which such research is conducted, evaluated, explained to patients, and applied to patient care.</p> <p>ACGME (Accreditation Council for Graduate Medical Education) is the physician-led organization that sets and monitors the professional educational standards essential in assessing and advancing the quality of resident physicians' education.</p> <p>ACGME Common Program Requirements. IV.B. Residents' Scholarly Activities. IV.B.1. The curriculum must advance residents' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. (core). IV.B.2. Residents should participate in scholarly activity. (core)</p>	<p>Medical school education includes principles of scholarly investigation with the actual curriculum structured by each institution. ACGME governs the residency programs and emphasizes scholarly activities and quality assurance principles within the residents' clinical experience.</p>
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		<p>VI.A.1.B). (1) Education in Quality Improvement. A cohesive model of health care includes quality-related goals, tools, and techniques that are necessary for health care professionals to achieve quality improvement goals. VI.A.1.b). (1). (a) Residents must receive training and experience in quality improvement processes, including an understanding of health care disparities. (core). VI.A.1.b). (3) Engagement in Quality Improvement Activities. Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to improve patient care. VI.A.1.b). (3). (a) Residents must have the opportunity to participate in interprofessional quality improvement activities. (core)</p>	
Medical Science	DMSc**	<p>ARC-PA (Accreditation Review Commission on Education for the Physician Assistant)</p> <p>Scope of recognition is for programs preparing individuals for entry into PA practice located in institutions in the United States that are accredited by recognized regional accrediting bodies. The scope does not cover the accreditation of clinical postgraduate PA programs.</p>	<p>The Doctor of Medical Science degree is a clinical doctorate for licensed physician assistants (PA) and PA educators interested in pursuing advanced professional practice. Typically, such curricula include a scholarly project: foundational courses such as evidence-based research and performance improvement to fine tune the scholarly project proposal and develop implementation procedures; execution of a scholarly project suitable for publication and/or presentation at PA and other conferences; synthesis of findings, conclusions, recommendations and evaluation of the scholarly project in a scholarly report suitable for publication or presentation. (6-8 credit hours)</p>
Occupational Therapy	OTD/DrOT	<p>ACOTE (Accreditation Council for Occupational Therapy)</p> <p>Preamble..... Demonstrate the ability to synthesize in-depth knowledge in a practice area through the development and completion of a doctoral capstone in one or more of the following areas: clinical practice skills, research skills, administration, leadership, program and policy development, advocacy, education, and theory development.</p>	<p>Standard A.2.5. Doctoral Capstone Coordinator. The program must identify an individual for the role of capstone coordinator who is specifically responsible for the program's compliance with the capstone requirements of Standards Section D.1.0 and is assigned to the occupational therapy educational program as a full-time core faculty member as defined by ACOTE.</p>

		<p>D.1.0. Doctoral Capstone. The doctoral capstone shall be an integral part of the program’s curriculum design. The goal of the doctoral capstone is to provide an in-depth exposure to one or more of the following: clinical practice skills, research skills, administration, leadership, program and policy development, advocacy, education, and theory development. The doctoral capstone consists of two parts: • Capstone project • Capstone experience. The student will complete an individual capstone project to demonstrate synthesis and application of knowledge gained. The student will complete an individual 14-week capstone experience that must be started after completion of all coursework and Level II fieldwork, and completion of preparatory activities.</p>	
Optometry	OD	<p>ACOE (Accreditation Council on Optometric Education) accredits professional optometric degree programs, optometric residency programs and technician programs.</p> <p>Standard II. Curriculum. 2.9.7. The graduate must be able to demonstrate understanding of research principles and conduct in order to critically assess the literature.</p> <p>Standard III. Research and Scholarly Activity. 3.2. The program must provide opportunities for students to participate in research and other scholarly activities mentored by faculty. Examples: Relevant course syllabi; samples of research projects in which students participate; samples of other scholarly activities in which students participate.</p>	<p>While clinical rotations and expert skill development are emphasized in the academic programs, faculty and students may explore ideas through research and make new discoveries about vision science with multidisciplinary opportunities spanning biology, neuroscience, optical engineering, epidemiology, psychology, optometry, medicine and other areas to better understand how the eye works and why vision can fail.</p>
Osteopathic Medicine	DO	<p>COCA (Commission on Osteopathic Accreditation) Pre-Accreditation Element 6.5: Scientific Method.</p> <p>A college of osteopathic medicine (COM) must ensure that the curriculum includes instruction in the scientific method including data collection to test and verify hypotheses or address questions regarding biomedical phenomena and in the basic scientific and ethical principles of clinical and translational research. The curriculum must include the methods by which such research is</p>	<p>Programs focus on osteopathic core competencies: medical knowledge, patient care, communication, professionalism, practice-based learning and improvement, systems-based practice, and osteopathic principles and practice/osteopathic manipulative treatment. Students may be engaged in research activities in the final phases of their academic program.</p>

		conducted, evaluated, explained to patients, and applied to patient care.	
Pharmacy	PharmD	<p>ACPE (Accreditation Council for Pharmacy Education) Standard 2. Essentials for Practice and Care. 2.4. Population-based care.</p> <p>The graduate is able to describe how population-based care influences patient-centered care and the development of practice-based guidelines and evidence-based best practices.</p> <p>Appendix 1 Required Elements of the Didactic Doctor of Pharmacy Curriculum. The following didactic content areas and associated learning expectations are viewed as central to a contemporary, high-quality pharmacy education and are incorporated at an appropriate breadth and depth in the required didactic Doctor of Pharmacy curriculum. Where noted, content areas may be addressed in the pre-professional curriculum, delivered within individual or integrated courses and may involve multiple disciplines.</p> <p>Biostatistics: Appropriate use of commonly employed statistical tests, management of data sets, and the evaluation of the validity of conclusions generated based on the application of those tests to the data sets.</p> <p>Social/Administrative/Behavioral Sciences – Research Design: Evaluation of research methods and protocol design required to conduct valid and reliable studies to test hypotheses or answer research questions, and to appropriately evaluate the validity and reliability of the conclusions of published research studies.</p> <p>Clinical Sciences – Health Information Retrieval and Evaluation: Critical analysis and application of relevant health sciences literature and other information resources to answer specific patient-care and/or drug-related questions and provide evidence-based therapeutic recommendations to healthcare providers or, when appropriate, the public.</p>	Pharmacy programs may offer joint degrees with various medical or scientific programs, PhDs, and where available an institution’s faculty may involve a research emphasis spanning both basic sciences and clinical interests including translational research.

Physical Therapy	DPT	<p>CAPTE (Commission on Accreditation in Physical Therapy Education) Professional Practice Expectation: Evidence-based Practice</p> <p>CC-5.21 Consistently use information technology to access sources of information to support clinical decisions.</p> <p>CC-5.22 Consistently and critically evaluate sources of information related to physical therapist practice, research, and education and apply knowledge from these sources in a scientific manner and to appropriate populations.</p> <p>CC-5.23 Consistently integrate the best evidence for practice from sources of information with clinical judgment and patient/client values to determine the best care for a patient/client.</p> <p>CC-5.24 Contribute to the evidence for practice by written systematic reviews of evidence or written descriptions of practice.</p> <p>CC-5.25 Participate in the design and implementation of patterns of best clinical practice for various populations.</p>	Evidence-based practice in physical therapy prepares students to apply the principles of evidence-based practice to clinical decision-making. A doctoral project appropriate to the profession of physical therapy should demonstrate critical inquiry, independent thinking, and rationale. An abstract, written manuscript or report and an oral presentation is usually required.
Podiatry	DPM	<p>CPME (Council on Podiatric Medical Education) (Proposed revision to Standards 2019) Standard 4. Curriculum.</p> <p>The podiatric medical college offers a curriculum that provides the learning experiences required for graduates to enter residency training. Domain III. Research and Scholarship. Competency statement: Apply scientific methods and utilize clinical and translational research to further understanding of contemporary podiatric medicine and its application to patient care.</p>	An example of course content may be principles of medical research where it is important for a podiatric physician to develop the ability to read and interpret the medical literature. This requires the fundamental understanding of biostatistics, quantitative epidemiology, public health and research design. Courses that provide a framework for the development of an evidence-based methodology to patient care are found in various podiatric curricula as well as credit hours for independent study (1-6 credit hours).
Public Health	DrPH	CEPH (Council on Education for Public Health) D6. DrPH Applied Practice Experience (SPH and PHP, if applicable)	While students may complete experiences as individuals or as groups in a structured experience, each student

		<p>Regardless of the amount or level of prior experience, all DrPH students engage in one or more applied practice experiences in which students are responsible for completion of at least one project that is meaningful for an organization and to advanced public health practice. The work product may be a single project or a set of related projects that demonstrate a depth of competence. It may be completed as a discrete experience (such as a practicum or internship) or integrated into program coursework. In either case, the deliverable must contain a reflective component that includes the student's expression of personal and/or professional reactions to the applied practice experience. This may take the form of a journal or other written product, a professional portfolio or another deliverable as appropriate for the program. Relevant organizations may include governmental, non-governmental, non-profit, industrial and for-profit settings. The school or program identifies sites in a manner that is sensitive to the needs of the agencies or organizations involved. Sites should benefit from students' experiences.</p> <p>D8. DrPH Integrative Learning Experience (SPH and PHP, if applicable)</p> <p>As part of an integrative learning experience, DrPH candidates generate field-based products consistent with advanced practice designed to influence programs, policies or systems addressing public health. The products demonstrate synthesis of foundational and concentration specific competencies. The integrative learning experience is completed at or near the end of the program of study. It may take many forms consistent with advanced, doctoral-level studies and university policies but must require, at a minimum, production of a high-quality written product.</p>	<p>must present documentation demonstrating individual competency attainment.</p> <p>Note from D.6: For accreditation purposes, the school or program must provide samples of complete sets of materials (the work products/documents that demonstrate at least five competencies) from at least five students in the last three years for each concentration or generalist degree.</p>
Social Work	DSW**	CSWE-COA (Council on Social Work Education – Commission on Accreditation) – Scope of accreditation is bachelor and master's degree programs.	For the advanced practice Doctor of Social Work, a capstone project is required consisting of two publishable articles submitted in a portfolio, ready for submission to a professional journal although it is not required that they be submitted. Articles are approved by a capstone

			committee and should present an area of interest that is related to the student's clinical experience. Topics might include a comprehensive literature review, needs of a specific population, a theoretical concept and application to practice, human behavior and functioning, extension of practice models or techniques, processes, supervisory or teaching techniques, administration and/or managerial issues, specific interventions, or critique of existing models or approaches to problem areas.
Veterinary Medicine	DVM/VMD	<p>AVMA-COE (American Veterinary Medicine Association – Council on Education) 7.10. Standard 10, Research Programs.</p> <p>The college must maintain substantial research activities of high quality that integrate with and strengthen the professional program. The college must demonstrate continuing scholarly productivity and must provide opportunities for any interested students in the professional veterinary program to be exposed to or participate in on-going high-quality research. All students must receive training in the principles and application of research methods and in the appraisal and integration of research into veterinary medicine and animal health.</p>	

**Advanced practice professional doctorate or advanced professional degree program is above and beyond 'Entry-level' professional requirements. It is distinguished from research doctorates in that they do not require dissertations and the original research upon which dissertations are based. Advanced practice doctorates incorporate advanced practice rotations or residencies and a capstone research project demonstrating the student's ability to conduct clinically relevant research appropriate to the advanced diagnostic or therapeutic practices taught in the program (Position statement of ASAHP - Association of Schools of Allied Health Professions, www.asahp.org, 9/16/2013)

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IX. Acknowledgements

White Paper on Scholarly Work Special Interest Group (SIG)

Shari Burns, EdD, MSN, CRNA, White Paper Special Interest Group Champion, COA Vice President, and Educator Director, Professor, Midwestern University DNAP Program. Dr. Burns designed and implemented the DNAP program curriculum at Midwestern University. Prior to serving on the COA, she served as a consultant to nurse anesthesia programs seeking to transition to the practice doctorate. In addition, she has mentored more than 40 CRNAs completing practice doctorate projects. Her lengthy background in anesthesia practice, quality improvement initiatives and education provide a solid foundation for project development consistent with the practice doctorate goals.

Laura S. Bonanno, PhD, DNP, CRNA, COA President and Educator Director, Associate Professor of Clinical Nursing, Louisiana State University Health Sciences Center (LSUHSC) School of Nursing (SON), Nurse Anesthesia DNP Program. Dr. Bonanno developed and implemented the post-master's and entry level DNP curricula at LSUHSC SON including the development of criteria and structure for the DNP scholarly project. Prior to serving on the COA, she served as an on-site team reviewer for the COA. In addition, she has served as the chair for more than 40 DNP projects for DNP students. Dr. Bonanno has been a practicing CRNA for 24 years and is committed to improving practice by incorporating evidence-based research into practice.

Claire Dixon-Lee, PhD, RHIA, CPH, FAHIMA, COA Public Member Director. Dr. Dixon-Lee is an Adjunct Associate Professor at University of Illinois at Chicago (UIC)-School of Public Health (SPH) Graduate Program in Public Health Informatics. Dr. Dixon-Lee serves on DrPH practice doctorate graduate committees. She is former CEO of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) and earned her Master of Science degree in Medical Epidemiology from SUNY at Buffalo and her PhD in Public Health Policy and Administration from UIC-SPH. She was awarded Fellowship at the University Healthsystems Consortium, Oakbrook, Ill., with a focus on clinical benchmarking studies, data analytics and multi-hospital clinical database management.

John McFadden, PhD, CRNA, Professor of Anesthesiology and Dean, Barry University College of Nursing and Health Sciences, External SIG member, COA Chair Reviewer. Dr. McFadden, in collaboration with faculty, designed and implemented practice doctorate curricula for nursing and other disciplines. He has chaired and served as a member on multiple dissertations and scholarly projects. In 2018, he was appointed co-chair of the American Association of Colleges of Nursing (AACN) Task Force for the Revision of the AACN Essentials Documents for baccalaureate, master's and doctoral education.

Mary Shirk Marienau, PhD, CRNA, APRN, Program Director, Mayo Clinic School of Health Sciences, Doctor of Nurse Anesthesia Practice Program, External SIG Member. Dr. Marienau has formally been involved in nurse anesthesia education for the Mayo Clinic School of Health Sciences, Master of Nurse Anesthesia (MNA) and Doctor of Nurse Anesthesia Practice (DNAP) programs for the past 28 years. She has been the associate program director (1991-97) and program director (1997-present) for Mayo Clinic's MNA program which she then transitioned to a DNAP program in 2014. She was a team and chair reviewer for the Council on Accreditation (COA) for many years, chair of the AANA Education Committee (1999-2000), and served for eight years (2008-16) in various capacities as a COA board member, including secretary, vice-chair and chair. She has also been an accreditation consultant for several programs.

Charles A. Griffis, PhD, CRNA, Assistant Clinical Professor, UCLA School of Nursing Faculty, USC Doctor of Nurse Anesthesia Practice Program, Chair, AANA Foundation, External SIG member. Dr. Griffis was involved in the development of elements and approaches used in the scholarly projects satisfying requirements for award of a USC Program of Nurse Anesthesia DNAP degree. Working with DNP, DNAP, EdD, and PhD educated faculty colleagues, he mentors students and serves as member and chair of multiple on-going scholarly project committees.

Audrey Berman, PhD, RN, COA University Director (2016-19), Professor, School of Nursing Samuel Merritt University. Dr. Berman was dean of nursing at Samuel Merritt University from 2004-19. The school developed and implemented a post-master's DNP in 2011 and then a post-baccalaureate DNP for its Family Nurse Practitioner and CRNA tracks. Dr. Berman has also served as a team-leader on multiple CCNE accreditation visits, including for DNP programs.

Frank Gerbasi, PhD, CRNA, COA Chief Executive Officer. As its CEO Dr. Gerbasi has overseen the COA's accreditation of nurse anesthesia programs for more than 17 years. Prior to serving as the CEO for the COA he started a new graduate nurse anesthesia program at the University of Michigan-Flint/Hurley Medical Center and served as its program administrator for more than 10 years. In 2002 he received the Outstanding Researcher of the Year Award presented by the AANA Foundation.

Kara Chlebek, MPA, COA Accreditation Specialist. Kara Chlebek has been an accreditation specialist with the COA for 10 years. As an accreditation specialist Kara provides staff support to programs developing nurse anesthesia practice doctorate offerings and has provided staff level review of a number of doctoral applications. Kara also provided staff support for the COA Standards Revision Task Force in its development of practice doctoral standards.

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