



REVIEW OF THE AMERICAN NURSES CREDENTIALING CENTER  
(ANCC) FAMILY NURSE PRACTITIONER BOARD CERTIFICATION  
EXAMINATION (FNP-BC)

STATE OF CALIFORNIA



DEPARTMENT OF CONSUMER AFFAIRS



CALIFORNIA BOARD OF REGISTERED NURSING

REVIEW OF THE AMERICAN NURSES CREDENTIALING  
CENTER (ANCC) FAMILY NURSE PRACTITIONER BOARD  
CERTIFICATION EXAMINATION (FNP-BC)



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Heidi Lincer, Ph.D., Chief

## EXECUTIVE SUMMARY

Licensing boards and bureaus within the California Department of Consumer Affairs (DCA) must ensure that examination programs used in California licensure/credentialing comply with psychometric and legal standards. The public must be reasonably confident that an individual passing an examination has the requisite skills and knowledge to practice safely and competently in the profession.

The American Nurses Credentialing Center (ANCC) Family Nurse Practitioner board certification examination (ANCC FNP-BC) is one of several national board certification examinations that are nationally recognized as evidence of specialization in the nurse practitioner (NP) profession. These examinations are used to qualify NPs to practice in California under Standardized Procedures. Standardized Procedures are policies and protocols developed and used by health facilities or health care systems; they specify the functions NPs may perform, the conditions under which they may perform them, and the requirements NPs must meet to perform them. The national board certification examinations are also used to qualify nurse practitioners in other states to practice independently. AB 890 (Wood, Chapter 265, Statutes of 2020), codified in Business and Professions (B&P) Code § 2837.103, specifies the requirements through which NPs in California may transition to practicing independently, defined as practicing without Standardized Procedures in specified settings and organizations. B&P Code § 2837.104 specifies additional requirements for independent NP practice outside of those settings or organizations.

B&P Code § 2837.105 requires the Board of Registered Nursing (Board) and the Office of Professional Examination Services (OPES) to review these national board certification examinations. Specifically, the Board and OPES must evaluate whether these examinations adequately assess the critical entry level competencies required to safely and effectively practice as an NP as specified in AB 890 and codified in B&P Code § 2837.103. The competencies required to perform these functions were specified in descriptions of practice in California resulting from an occupational analysis (OA) performed by the Board and OPES.

If the Board and OPES identify additional competencies necessary to perform the functions specified in B&P Code § 2837.103 that are not adequately assessed by the national board certification examinations, then the Board will be required to develop a supplemental California examination that assesses the identified competencies.

OPES has therefore performed a comprehensive review of the ANCC FNP-BC examination. The primary purpose of the review was to evaluate the suitability of using

the ANCC FNP-BC examination for the purpose of authorizing a family NP who meets the requirements of B&P Code § 2837.103 to practice independently. OPES evaluated whether the ANCC FNP-BC examination meets professional guidelines and technical standards pursuant to B&P Code § 139, as required by B&P Code § 2837.105.

OPES reviewed documents provided by ANCC to determine whether the following ANCC FNP-BC examination components meet professional guidelines and technical standards: (a) OA, (b) examination development and scoring, (c) passing scores and passing rates, (d) test administration and score reporting, and (e) test security procedures.

OPES found that the procedures used to establish and support the validity and defensibility of the components listed above meet professional guidelines and technical standards outlined in the *Standards for Educational and Psychological Testing (2014) (2014 Standards)* and in B&P Code § 139. However, to fully comply with B&P Code § 139 and related DCA *Policy OPES 20-01 Participation in Examination Development Workshops (OPES 20-01)*, OPES recommends phasing out the service of instructors in examination development and standard setting processes. In addition, OPES recommends that when ANCC conducts the next OA, they survey all certified family NPs. In addition, as stated in DCA's Departmental Procedures Memorandum on Examination Security (DPM OPES 22-01), online or remote proctoring is not recommended for high-stakes examinations.

On November 3 and 18, 2021, OPES test specialists convened two teleconference workshops with the participation of subject matter experts (SMEs). The SMEs held family NP certification and were actively working in family NP settings in California. The SMEs were selected to represent the profession in both northern and southern California.

The workshop had two purposes: (1) to link the content of the ANCC FNP-BC examination, as defined in ANCC's *2018 Role Delineation Study American Nurses Credentialing Center Family Nurse Practitioner Certification Examination (ANCC 2018 FNP OA)*, to family NP practice in California, as defined in the *California Occupational Analysis of the Nurse Practitioner Practice and Practice Specialties (California 2021 NP OA)*; and (2) to evaluate the extent to which the ANCC FNP-BC examination assesses the competencies required to practice safely and effectively as a family NP in California.

The SMEs evaluated the tasks contained in the ANCC FNP-BC examination content outline against the California tasks and associated knowledge statements as outlined by the *California 2021 NP OA*. The associated knowledge was included to provide

additional context for the tasks. The SMEs completed linkages for every California task and its associated knowledge statements with ANCC FNP-BC tasks. The results of the evaluation and linkage indicate that the ANCC FNP-BC examination adequately assesses critical, entry level clinical competencies required for safe and effective family NP practice in California as defined by the *California 2021 NP OA* and B&P Code § 2837.103. The ANCC FNP-BC examination does not assess knowledge related to California-specific laws and regulations. OPES supports the Board's use of the ANCC FNP-BC examination as part of the licensure/credentialing process for NPs who meet the requirements of B&P Code § 2837.103 to practice independently as family NPs in California.

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# CHAPTER 1 | INTRODUCTION

## CALIFORNIA LAW AND REGULATION OF NURSE PRACTITIONERS

Under section 1480 of Title 16 of the California Code of Regulations (16 CCR § 1480), a nurse practitioner (NP) is “an advanced practice registered nurse [RN] who meets board education and certification requirements and possesses additional advanced practice educational preparation and skills in physical diagnosis, psycho-social assessment, and management of health-illness needs in primary care, and/or acute care.”

When performing advanced functions outside of scope of RN practice, which are otherwise overlapping medical functions, NPs in California currently practice under the legal mechanism of Standardized Procedures. Standardized Procedures are policies and protocols developed and used by health facilities or health care systems; they specify the functions NPs may perform, the conditions under which they may perform them, and the requirements NPs must meet to perform them. NPs performing functions under Standardized Procedures may not practice independently (*General Information: Nurse Practitioner Practice*, Board of Registered Nursing, 2011).

AB 890 (Wood, Chapter 265, Statutes of 2020), codified in Business and Professions (B&P) Code § 2837.103, specifies the requirements through which NPs in California may transition to practicing independently, defined as practicing without Standardized Procedures in specified settings and organizations. B&P Code § 2837.104 specifies additional requirements for independent NP practice outside of those settings or organizations. B&P Code § 2837.103 specifies the functions that may be performed without Standardized Procedures in certain settings and under certain conditions by NPs who have completed 3 years of supervised clinical practice, known as a 3-year “transition to practice”:

(c) In addition to any other practices authorized by law, a nurse practitioner ... may perform the following functions without standardized procedures in accordance with their education and training:

(1) Conduct an advanced assessment.

(2) (A) Order, perform, and interpret diagnostic procedures.

(B) For radiologic procedures, a nurse practitioner can order diagnostic procedures and utilize the findings or results in treating the patient. A nurse practitioner may perform or interpret clinical laboratory procedures that they are permitted to perform

under Section 1206 and under the federal Clinical Laboratory Improvement Act (CLIA).

(3) Establish primary and differential diagnoses.

(4) Prescribe, order, administer, dispense, procure, and furnish therapeutic measures, including, but not limited to, the following:

(A) Diagnose, prescribe, and institute therapy or referrals of patients to health care agencies, health care providers, and community resources.

(B) Prescribe, administer, dispense, and furnish pharmacological agents, including over-the-counter, legend, and controlled substances.

(C) Plan and initiate a therapeutic regimen that includes ordering and prescribing nonpharmacological interventions, including, but not limited to, durable medical equipment, medical devices, nutrition, blood and blood products, and diagnostic and supportive services, including, but not limited to, home health care, hospice, and physical and occupational therapy.

(5) After performing a physical examination, certify disability pursuant to Section 2708 of the Unemployment Insurance Code.

(6) Delegate tasks to a medical assistant pursuant to Sections 1206.5, 2069, 2070, and 2071, and Article 2 (commencing with Section 1366) of Chapter 3 of Division 13 of Title 16 of the California Code of Regulations.

B&P Code § 2837.104 specifies that these functions can be performed outside of those limited settings and conditions by an NP who meets the following requirements:

- Has met all the requirements specified in B&P Code § 2837.103(a)(1), including:
  - Passing a national NP board certification examination and, if applicable, a supplemental California examination.
  - Holding a certification as a nurse practitioner from a national certifying body recognized by the Board of Registered Nursing (Board).
  - Providing documentation that educational training was consistent with standards established by the Board.
  - Completing the 3-year “transition to practice.”
- Holds a valid and active license as a registered nurse in California and a master’s degree in nursing or in a clinical field related to nursing or a doctoral degree in nursing.

- Has practiced as an NP for an additional 3 years, not including the 3 years required for the “transition to practice.”

NPs who practice pursuant to B&P Code §§ 2837.103 and 2837.104 are likely to practice in one of eight categories described in 16 CCR § 1481.

1. Family care
2. Adult-gerontology primary care
3. Adult-gerontology acute care
4. Neonatal care
5. Pediatric primary care
6. Pediatric acute care
7. Women’s health care
8. Psychiatric mental health care

#### MANDATE OF THE COMPREHENSIVE REVIEW

B&P Code § 2837.105(a) requires the Board of Registered Nursing (Board) and the Office of Professional Examination Services (OPES) to perform an occupational analysis (OA) of NPs performing the eight functions described above. An OA may also be known as a job analysis, practice analysis, task analysis, or role delineation study. For purposes of consistency, this report uses the term OA. The OA resulted in eight California descriptions of practice for NPs transitioning to practice independently.

The descriptions of practice are included in the 2021 *California Occupational Analysis of the Nurse Practitioner Practice and Practice Specialties (California 2021 NP OA)*.

B&P Code § 2837.105(b) authorizes OPES to review the Board’s proposed NP “examination process,” which includes national board certification examinations, “pursuant to Section 139 [of the B&P Code].” Section 139 states that “occupational analyses and examination validation studies are fundamental components of licensure programs,” and it requires OPES to assess whether a national examination program has identified competencies by means of a valid OA, and whether it tests those competencies in accordance with technical standards.

B&P Code § 2837.105 requires the Board and OPES to evaluate whether national NP board certification examinations adequately assess the critical entry level competencies required to practice as an NP as specified in AB 890 and codified in B&P Code § 2837.103. The national board certification examinations selected for evaluation are

nationally recognized as evidence of specialization in the NP profession. These examinations are used to qualify NPs to practice in California under Standardized Procedures.

If the Board and OPES identify additional competencies necessary to perform the functions specified in B&P Code § 2837.103 that are not adequately assessed by the national board certification examinations, then the Board will be required to develop a supplemental California examination that assesses the identified competencies.

In conclusion, the Board is required by B&P Code § 2837.105 to perform an OA of NPs practicing as specified in B&P Code § 2837.103, and to review national NP board certification examinations pursuant to B&P Code § 139.

## PURPOSE OF THE COMPREHENSIVE REVIEW

Licensing boards and bureaus within the California Department of Consumer Affairs (DCA) must ensure that examination programs used in California licensure/credentialing comply with psychometric and legal standards. The public must be reasonably confident that an individual passing an examination has the requisite skills and knowledge to practice safely and competently in the profession.

The American Nurses Credentialing Center (ANCC) Family Nurse Practitioner board certification examination (ANCC FNP-BC) is a national board certification examination used to qualify NPs to practice as a family NP in California under Standardized Procedures. AB 890 mandated that OPES review the ANCC FNP-BC examination for use in the Board's proposed NP examination process. The purpose of the review was to evaluate the suitability of using the ANCC FNP-BC examination in the Board's process for authorizing independent family NP practice. OPES' review included the following:

1. Determining whether the ANCC FNP-BC examination meets the professional guidelines and technical standards outlined in the *Standards for Educational and Psychological Testing (2014) (2014 Standards)* and in B&P Code § 139. DCA *Policy OPES 18-02 Licensure Examination Validation (OPES 18-02)* specifies the *2014 Standards* as the most relevant technical and professional standards to be used to ensure that examinations used in licensure/credentialing programs in California are psychometrically sound, job-related, and legally defensible.
2. Identifying any critical entry level competencies required for safe and effective family NP practice in California that the ANCC FNP-BC examination does not assess.

OPES recognizes that evaluating the suitability of the ANCC FNP-BC examination for use in making licensure/credentialing decisions in California involves complex analysis. As noted on page 7 of the *2014 Standards*:

Evaluating the acceptability of a test does not rest on the literal satisfaction of every standard ... and the acceptability of a test or test application cannot be determined by using a checklist. Specific circumstances affect the importance of individual standards, and individual standards should not be considered in isolation. Therefore, evaluating acceptability depends on (a) professional judgment that is based on a knowledge of behavioral science, psychometrics, and the relevant standards in the professional field to which the test applies; (b) the degree to which the intent of the standard has been satisfied by the test developer and user; (c) the alternative measurement devices that are readily available; (d) research and experiential evidence regarding the feasibility of meeting the standard; and (e) applicable laws and regulations.

OPES, in collaboration with the Board, requested documentation from ANCC, including information to determine whether the following ANCC FNP-BC examination components meet professional guidelines and technical standards outlined in the *2014 Standards* and in B&P Code § 139: (a) OA, (b) examination development and scoring, (c) passing scores and passing rates, (d) test administration and score reporting, and (e) test security procedures. OPES, with the assistance of the Board, also conducted a linkage study to evaluate the extent to which the ANCC FNP-BC examination assesses the competencies required to practice safely and effectively as a family NP in California (as defined by the *California 2021 NP OA* and B&P Code § 2837.103).

OPES' evaluation of the ANCC FNP-BC examination is based solely on its review of the documentation provided by ANCC. OPES did not seek to independently verify the claims and statements made by ANCC.

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## CHAPTER 2 | OCCUPATIONAL ANALYSIS

For ANCC FNP-BC candidate scores to be considered a valid basis for making NP licensure/credentialing decisions in California, the knowledge base tested on the examination must closely correspond to the knowledge required for safe and effective practice as an entry level family NP in California.

As indicated by the *2014 Standards*, this knowledge base is typically identified by conducting an OA. The results of the OA directly inform the examination content outline (i.e., test blueprint) in terms of important tasks and the knowledge that should be assessed through a licensure/credentialing examination.

PSI Services, LLC (PSI), in collaboration with ANCC, conducted the OA of the family NP profession. The results of the study are documented in the *2018 Role Delineation Study American Nurses Credentialing Center Family Nurse Practitioner Certification Examination (ANCC 2018 FNP-BC OA)*. Unless otherwise noted, the information in this chapter was derived from the *ANCC 2018 FNP-BC OA*.

### OCCUPATIONAL ANALYSIS STANDARDS

The following standards are most relevant to conducting OAs for licensure/credentialing examinations, as referenced in the *2014 Standards*:

#### **Standard 11.2**

Evidence of validity based on test content requires a thorough and explicit definition of the content domain of interest.

*Comment on Standard 11.2:* ... For credentialing tests, the target content domain generally consists of the knowledge, skills, and judgment required for effective performance. The target content domain should be clearly defined so it can be linked to test content (p. 178).

#### **Standard 11.3**

When test content is a primary source of validity evidence in support of the interpretation for the use of a test for ... credentialing, a close link between test content and the job or professional/occupational requirements should be demonstrated.

*Comment on Standard 11.3:* ... For a credentialing examination, the evidence should include a description of the major responsibilities, tasks, and/or activities

performed by practitioners that the test is meant to sample, as well as the underlying knowledge and skills required to perform those responsibilities, tasks, and/or activities (pp. 178–179).

### **Standard 11.13**

The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale and evidence should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in that occupation and are consistent with the purpose for which the credentialing program was instituted (pp. 181–182).

*Comment on Standard 11.13:* Typically, some form of job or practice analysis provides the primary basis for defining the content domain. If the same examination is used in the credentialing of people employed in a variety of settings and specialties, a number of different job settings may need to be analyzed. Although the job analysis techniques may be similar to those used in employment testing, the emphasis for credentialing is limited appropriately to knowledge and skills necessary for effective practice (p. 182).

In tests used for licensure, knowledge and skills that may be important to success but are not directly related to the purpose of licensure (i.e., protecting the public) should not be included (p. 182).

## **OCCUPATIONAL ANALYSIS TIME FRAME**

B&P Code § 139 requires that each California licensure board, bureau, commission, and program report annually on the frequency of its OAs and the validation and development of its examinations. *OPES 18-02* states:

Generally, an occupational analysis and examination outline should be updated every five years to be considered current; however, many factors are taken into consideration when determining the need for a different interval. For instance, an occupational analysis and examination outline must be updated whenever there are significant changes in a profession’s job tasks and/or demands, scope of practice, equipment, technology, required knowledge, skills and abilities, or law and regulations governing the profession (p. 4).



The most recent ANCC OA of family NP practice was initiated in May 2018 and completed in May 2019. The ANCC undertakes OAs of the family NP profession every 3–5 years.

**Finding 1:** The OA was conducted within a time frame considered to be current and legally defensible.

## OCCUPATIONAL ANALYSIS PURPOSE

The purpose of the OA was to ensure that the examination content accurately represents practice in the family NP profession.

## PARTICIPATION OF SUBJECT MATTER EXPERTS

OA methodology relies on the experience and professional judgments of NPs serving as subject matter experts (SMEs). The SMEs develop a description of practice for family NPs. Throughout the OA process, input from a diverse and representative group of SMEs is critical to obtain valid results. If an examination is to assess the competencies required to practice safely and competently in California, the OA process should involve large and representative groups of California NPs during each OA stage.

To conduct the OA, an online survey was developed with the participation of a group of 10 SMEs, all holding family NP certification. The group was established to participate in the project. The SMEs were selected to ensure representation among the members of different demographic and practice-related perspectives.

Under the psychometric guidance of PSI, the SMEs developed the survey, beginning with the revision and update of the existing description of practice. The SMEs discussed and revised the tasks, skills, and knowledge areas comprising the existing ANCC FNP-BC examination content outline. After all revisions were made to the examination content outline, the SMEs performed a linkage analysis to establish a relationship between tasks and knowledges and skills such that all skills were matched with at least one task and all tasks were matched with at least one skill.

Using the tasks, skills, and knowledge areas, the SMEs and PSI representatives discussed and finalized a draft practice analysis survey. The survey was used to help determine the content weighting for the ANCC FNP-BC examination.

In August 2018, the SMEs participated in a workshop to develop examination specifications. SMEs considered the results of the survey, their own expert judgments, and their own recommended percentage weights for the content domains. After consideration of all available data, the SMEs determined the final percentage weights.

## NATIONAL OCCUPATIONAL ANALYSIS METHODOLOGY

According to the *2014 Standards*, an OA should clearly and explicitly define the target content domain of the test in terms of the knowledge and skills required for safe and competent practice in a wide variety of practice settings.

### Survey Development

The methodology used to conduct the OA study was an online survey. The survey was developed by 10 SMEs in conjunction with PSI staff, who included qualified psychometricians. The SMEs and PSI staff prepared the draft practice analysis survey, which was discussed and finalized by the SMEs.

The final survey consisted of three sections: (1) Tasks, (2) Knowledge and Skill Statements, and (3) Demographic and Professional Questions. Each section had a specific rating scale.

For the Tasks section, respondents were asked to indicate how frequently they performed each of the 27 tasks on a scale ranging from 0 “N/A this task is not performed” to 5 “very frequently.” Respondents were also asked to indicate the importance of each of the tasks on a scale ranging from 0 “N/A this task is not performed” to 5 “critically important.” For the Knowledge and Skill Statements section, respondents were asked to indicate only the importance of each of the 23 statements using the same 0–5 scale.

**Finding 2:** The procedure used by ANCC and PSI to develop the survey appears to meet professional guidelines and technical standards.

### Survey Sample

A pilot survey was sent to 100 SMEs to identify any modifications needed before the final survey. The final survey was administered to a geographically stratified sample of 1,500 NPs with active family NP certification from ANCC in the U.S. PSI had the contact information of 66,000 actively certified family NPs in the U.S. Of the 1,500 NPs, 942 opened the survey and 173 completed it, and, of those, 164 (94%) indicated that they were currently practicing as a family NP. Of those who completed the survey, 12 indicated that they were from California. More than 90% of respondents indicated that they were currently practicing as a family NP. The mean reported hours worked per week was 35. The mean reported years of experience as a family NP was 12.23.

**Finding 3:** The intent of the sampling plan was reasonable; however, the stratified sampling plan limited the number of NPs who had the opportunity to participate.

The SMEs evaluated the sample as representative of the NP profession. NPs in California were included in the final respondent sample.

## Survey Results

PSI collected the survey data and analyzed the rating results. Task ratings obtained from the survey were analyzed and averaged. For each task, there was a mean frequency rating and a mean importance rating.

Thresholds for the frequency ratings and the importance ratings were also determined. Tasks had to meet these thresholds to be included in the final examination content outline. The key findings indicated that all of the tasks, knowledges, and skills represent a valid description of the specific elements of family NP practice.

## Examination Content Outline Development

After the main survey was administered and the data were gathered, an examination content outline and examination specifications were developed based on SME consensus. The survey identified 27 tasks and 23 knowledge and skill statements. Finally, examination specifications were developed, and SMEs determined the final percentage weights for the content domains.

To determine the percentage of examination items for each content domain on an examination form, a formula widely used in the certification industry was used. The formula allocates percentage weight based on the average SME rating of the importance of the knowledge and skill areas in each content domain.

**Finding 4:** The linkage between the tasks required of entry level family NPs and the content domains of the ANCC FNP-BC examination demonstrates a sufficient level of validity, thereby meeting professional guidelines and technical standards.

## CONCLUSIONS AND RECOMMENDATIONS

The OA conducted by ANCC and PSI appears consistent with professional guidelines and technical standards. Additionally, the development of the examination specifications for the ANCC FNP-BC examination is based on the results of the OA and meets professional guidelines and technical standards. OPES recommends that ANCC survey the entire NP population in future OAs to increase the number of NPs who can participate.

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## CHAPTER 3 | EXAMINATION DEVELOPMENT AND SCORING

### STANDARDS AND REGULATIONS

Examination development consists of many steps, including development of scoring criteria and procedures for test administration and scoring. Several specific activities involved in the examination development process are evaluated in this section. The activities include: item writing and review, item pilot testing, linking items to the examination content outline, and developing examination forms.

### EXAMINATION DEVELOPMENT STANDARDS

The following standards are most relevant to examination development and scoring of certification examinations, as referenced in the *2014 Standards*.

#### **Standard 1.11**

When the rationale for test score interpretation for a given use rests in part on the appropriateness of test content, the procedures followed in specifying and generating test content should be described and justified with reference to the intended population to be tested ... or the domain it is intended to represent.... (p. 26).

#### **Standard 2.3**

For each total score, subscore, or combination of scores that is to be interpreted, estimates of relevant indices of reliability/precision should be reported (p. 43).

#### **Standard 4.7**

The procedures used to develop, review, and try out items and to select items from the item pool should be documented (p. 87).

*Comment on Standard 4.7:* The qualifications of individuals developing and reviewing items and the process used to train and guide them in these activities are important aspects of test development documentation. Typically, several groups of individuals participate in the test development process, including item writers and individuals participating in reviews for item and test content, for sensitivity, or for other purposes (pp. 87–88).

### **Standard 4.8**

The test review process should include empirical analyses and/or the use of expert judges to review items and scoring criteria. When expert judges are used, their qualifications, relevant experiences, and demographic characteristics should be documented, along with the instructions and training in the item review process that the judges receive (p. 88).

### **Standard 4.9**

When item or test form tryouts are conducted, the procedures used to select the sample(s) of test takers as well as the resulting characteristics of the sample(s) should be documented. The sample(s) should be as representative as possible of the population(s) for which the test is intended (p. 88).

### **Standard 4.10**

When a test developer evaluates the psychometric properties of items, the model used for that purpose (e.g., classical test theory, item response theory, or another model) should be documented. The sample used for estimating item properties should be described and should be of adequate size and diversity for the procedure. The process by which items are screened and the data used for screening, such as item difficulty, item discrimination, or differential item functioning (DIF) for major examinee groups, should also be documented. When model-based methods (e.g., IRT) are used to estimate item parameters in test development, the item response model, estimation procedures, and evidence of model fit should be documented (pp. 88–89).

### **Standard 4.12**

Test developers should document the extent to which the content domain of a test represents the domain defined in the test specifications (p. 89).

The following regulations are relevant to the integrity of the examination development process:

B&P Code § 139 requires the Department of Consumer Affairs to develop a policy on examination validation which includes minimum requirements for psychometrically sound examination development.

*DCA Policy OPES 20-01 Participation in Examination Development Workshops (OPES 20-01)*, as mandated by B&P Code § 139, specifies that board members,

committee members, and instructors should not serve as expert consultants in the licensure examination development process. This is due to potential conflict of interest, undue influence, and security considerations.

Unless otherwise noted, the source for the information in this chapter is the documents provided and authored by ANCC (see Chapter 9, References).

## EXAMINATION DEVELOPMENT – ITEM DEVELOPMENT AND PARTICIPATION OF SUBJECT MATTER EXPERTS

Participation of representative and diverse groups of certified, practicing family NPs at each stage of examination development is critical for ensuring that the content of the examination accurately reflects the examination specifications and current occupational requirements. The representativeness and diversity of SMEs engaged in examination development activities are critical for ensuring that examination items and forms are free of bias and potential barriers to valid measurement.

ANCC has a psychometrician on staff who oversees examination development for all of ANCC's examinations. SMEs selected by ANCC participate in the ANCC FNP-BC examination development performed by ANCC. SMEs participate in item writing, item review, linking of each item to the examination content outline during writing and review, and review of examination content.

All SMEs must meet the required qualifications and expertise and have completed the required trainings. The SMEs must possess current and applicable ANCC certifications, must maintain active practice as required by ANCC, and must meet conflict of interest requirements. The conflict of interest requirements persist for 2 years. ANCC allows up to two educators to participate; however, the ANCC's conflict-of-interest form prohibits participating SMEs from engaging in test preparation activities and from being involved in test review materials.

SMEs receive item writing resources developed by ANCC. Items are written to one of three cognitive levels: recall, comprehension, or analysis. The level depends on the objective of the question. Item writers are encouraged to write items that require the test taker to apply knowledge or analyze information to determine the correct response. These items are more relevant and valuable than recall questions (*2021 Writing Handbook American Nurses Credentialing Center Item*). Item writing work is completed and submitted to ANCC remotely through a secure web-based application used by ANCC for the creation, submission, and review of examination items.

SMEs must complete annual writing assignments that typically require fewer than 100 completed items per year. Writing assignments are based on the requirements of the item bank. SMEs are given preliminary deadlines for submission of items for review. Submitted items are reviewed by ANCC mentors, who may provide feedback. ANCC staff and highly involved SMEs are available as mentors during this process and hold “item writing office hours.” SME item writers are required to attend office hours each quarter in which they are actively writing. Items continue through a review cycle until they are accepted.

**Finding 5:** The criteria used to select SMEs for item and examination development are consistent with professional guidelines and technical standards.

**Finding 6:** *OPES 20-01* states that instructors should not serve as SMEs due to potential conflict of interest, undue influence, and security considerations. ANCC allows educators to participate in item development for the ANCC FNP-BC examination. This is not fully compliant with *OPES 20-01*, as mandated by B&P Code § 139.

**Finding 7:** SMEs participating in item and examination development are required to sign confidentiality agreements and are instructed about test security. This practice is consistent with professional guidelines and technical standards.

**Finding 8:** Item development guidelines used by ANCC to train SMEs and develop items are consistent with technical standards and professional guidelines.

## EXAMINATION DEVELOPMENT – ITEM PILOT TESTING

Before becoming scored examination items, all items are first pretested as part of regular test administrations. Each ANCC FNP-BC examination form consists of 175 multiple-choice items, with 150 scored and 25 pretest (unscored) items. Pretest items are not identified to candidates.

The 25 pretest items are administered to obtain performance statistics. ANCC SMEs review the 25 items and their statistics before an item is approved for inclusion as a scored item on the ANCC FNP-BC examination. Questions that seem problematic are revised or discarded. The item review process includes validating how accurate the item is, how relevant the item content is to practice, and how current the item is in relation to practice, as well as the classification of the item in the examination content outline. Item review SMEs are recruited from the same pool as item writers and must meet all of the same requirements.



**Finding 9:** The procedures used to develop, review, and pilot test items, as well as to select and retire items from the item bank, are consistent with professional guidelines and technical standards.

## EXAMINATION CONSTRUCTION AND SCORING

The ANCC FNP-BC examination is constructed according to the examination content outline derived from the OA. The four content domains of the ANCC FNP-BC examination content outline are: Assessment, Diagnosis, Clinical Management, and Professional Role. As part of writing an item, SMEs assign the item to a content domain and associate it to skill and knowledge. Classification and cognitive level are confirmed as part of the item writing and review process.

**Finding 10:** Items are assigned to content domains by SMEs and reevaluated during the item review process. The steps taken to link the examination items to the content domains are consistent with professional guidelines and technical standards.

Examination forms are created by ANCC examination development staff in collaboration with PSI's examination development and psychometric teams. Items are selected for an examination form based on the examination content outline and statistical targets. Most items have p-values between .36 and .89, and point-biserial correlations of .07 or higher. In some cases, items that fall outside of these parameters are used if sufficient cause is given for their inclusion.

After a form is created, it is reviewed by the chair of the Content Expert Panel (CEP). Multiple reviews of the form are performed to confirm that there are no overlapping items, that no items give clues to the correct answer, and that all items reflect current practice (ANCC's 2020 *Workflow Editorial Review Instances and Expectations in the Exam Development*).

All examination forms are created using the same criteria to ensure that forms are comparable in terms of content and item difficulty. Parallel forms have nearly identical average p-values, and test content domains are made as close to identical as possible. Forms have approximately 20% overlap to allow for equating. Final forms are evaluated using a modified Angoff method that produces the score needed to pass the form.

The ANCC FNP-BC examination uses scaled scores that are expressed on a scale on which the passing point is set at 350. A score of 350 indicates that a candidate is minimally competent. For each subsequent examination form, the number of raw items needed to be minimally competent (the cut score) is established through equating.

Consequently, as examination forms change, a different number of correct answers (raw score) will be reported as a score of 350 when the raw score is equal to the cut score.

**Finding 11:** The criteria applied to create new examination forms appear to meet professional guidelines and technical standards.

**Finding 12:** The procedure by which examination forms are equated appears to meet professional guidelines and technical standards based on the examination item types, examination form length, and candidate sample sizes.

The ANCC Manager of Research and Psychometrics creates an annual Technical Report presenting the statistical performance of the examination. The Technical Report is the official summary of the performance of the program and of all examination forms within the previous calendar year. The report includes form-level analysis for each examination form and item difficulty and point-biserial distributions. The report is used to identify potentially problematic items. Item analysis is completed and provided on a prescribed schedule. Pass rate, difficulty, point-biserial, KR20, and standard error of measurement are reported periodically.

**Finding 13:** The scoring criteria is applied equitably to ensure the validity and reliability of the examination results. The examination scoring process meets professional guidelines and technical standards.

**Finding 14:** The steps taken by ANCC to score the ANCC FNP-BC examination appear to provide a fair and objective evaluation of candidate performance.

**Finding 15:** The steps taken by ANCC to evaluate examination performance are valid and legally defensible and meet professional guidelines and technical standards.

## CONCLUSIONS AND RECOMMENDATIONS

Overall, the information reviewed by OPES indicates that ANCC FNP-BC item development, examination construction, and scoring procedures appear consistent with professional guidelines and technical standards related to examination development. To reduce the potential for conflict of interest, OPES recommends phasing out the service of instructors in examination development.

## CHAPTER 4 | PASSING SCORES AND PASSING RATES

The passing score of an examination is the score that represents the level of performance that divides those candidates for certification who are minimally competent from those who are not competent. Passing scores are also known as cut scores or cut points.

### PASSING SCORE STANDARDS

The following standards are most relevant to passing scores for licensure/credentialing examinations, as referenced in the *2014 Standards*.

#### **Standard 5.21**

When proposed score interpretations involve one or more cut scores, the rationale and procedures used for establishing cut scores should be documented clearly (p. 107).

*Comment on Standard 5.21:* ... cut scores may be used to classify examinees into distinct categories (e.g., ... passing versus failing) for which there are no pre-established quotas. In these cases, the standard-setting method must be documented in more detail. Ideally, the role of cut scores in test use and interpretation is taken into account during test design. Adequate precision in regions of score scales where cut scores are established is prerequisite to reliable classification of examinees into categories. ... If a judgmental standard-setting process is followed, the method employed should be described clearly, and the precise nature and reliability of the judgments called for should be presented, whether those are judgments of persons, of item or test performances, or of other criterion performances predicted by test scores. Documentation should also include the selection and qualifications of standard-setting panel participants, training provided, any feedback to participants concerning the implications of their provisional judgments, and any opportunities for participants to confer with one another. Where applicable, variability over participants should be reported. Whenever feasible, an estimate should be provided of the amount of variation in cut scores that might be expected if the standard-setting procedure were replicated with a comparable standard-setting panel (pp. 107–108).

## **Standard 5.22**

When cut scores defining pass-fail or proficiency levels are based on direct judgments about the adequacy of item or test performances, the judgmental process should be designed so that the participants providing the judgments can bring their knowledge and experience to bear in a reasonable way (p. 108).

*Comment on Standard 5.22:* Cut scores are sometimes based on judgments about the adequacy of item or test performances ... or proficiency expectations (e.g., the scale score that would characterize a borderline examinee). The procedures used to elicit such judgments should result in reasonable, defensible proficiency standards that accurately reflect the standard-setting participants' values and intentions. Reaching such judgments may be more straightforward when participants are asked to consider kinds of performances with which they are familiar and for which they have formed clear conceptions of adequacy or quality. When the responses elicited by a test neither sample nor closely simulate the use of tested knowledge or skills in the actual criterion domain, participants are not likely to approach the task with such clear understanding of adequacy or quality. Special care must then be taken to ensure that participants have a sound basis for making the judgments requested. Thorough familiarity with descriptions of different proficiency levels, practice in judging task difficulty with feedback on accuracy, the experience of actually taking a form of the test, feedback on the pass rates entailed by provisional proficiency standards, and other forms of information may be beneficial in helping participants to reach sound and principled decisions (p. 108).

## **Standard 11.16**

The level of performance required for passing a credentialing test should depend on the knowledge and skills necessary for credential-worthy performance in the occupation or profession and should not be adjusted to control the number or proportion of persons passing the test (p. 182).

The *2014 Standards* specify that any standard setting process used should be clearly documented and defensible (pp. 101, 108). The qualifications of the judges involved and the process of selecting them should be part of the documentation. A sufficiently large and representative group of judges should be involved, and care must be taken to

ensure that judges understand the process and procedures they are to follow (pp. 101, 108).

In addition, the *2014 Standards* specify that for tests used in licensure/credentialing, the focus is on “the standards of competence needed for effective performance (e.g., in licensure this refers to safe and effective performance in practice)” (p. 175). Additionally, “standards must be high enough to ensure that the public, employers, and government agencies are well served, but not so high as to be unreasonably limiting” (p. 176).

Unless otherwise noted, the source for the information in this chapter is ANCC’s 2019 *Setting Cut Score – Standard Setting Procedure (2019 Standard Setting Procedure)*.

## PARTICIPATION OF SUBJECT MATTER EXPERTS

SMEs are selected by ANCC to participate in the standard setting process by serving on a panel. The SMEs who participate in the passing score panel have expertise in the content domains assessed by the ANCC FNP-BC examination and possess the family NP certification. The 2019 passing score panel had nine SMEs.

No more than two educators are permitted to serve on the passing score panel. *OPES 20-01*, as mandated by B&P Code § 139, specifies that board members, committee members, and instructors should not serve as expert consultants in the licensure examination standard setting processes. This is due to potential conflict of interest, undue influence, and security considerations.

**Finding 16:** The number of SMEs serving in the setting of the passing score meets professional guidelines and technical standards.

**Finding 17:** Allowing instructors to serve on the passing score panel is a potential conflict of interest and is not fully compliant with *OPES 20-01*, as mandated by B&P Code § 139.

## STANDARD SETTING METHODOLOGY

To describe how much content mastery is required for candidates to pass the ANCC FNP-BC examination, standard setting is used. Standard setting is the process by which expert judgment (and content expertise) about the tested content is mapped to the test score scale.

Standard setting is facilitated by ANCC staff, and employs SMEs to set the passing score. The process is described in the *2019 Standard Setting Procedure*.

The SMEs were first instructed and trained on all aspects of the standard setting procedure. The standard setting process consisted of the following seven steps:

1. Review of materials.
2. Presentation regarding the procedure of modified Angoff.
3. Discussion of the minimally competent practitioner's characteristics.
4. Practice items to demonstrate the process of modified Angoff.
5. Application of modified Angoff and a standard setting meeting.
6. Review by a PSI facilitator.
7. Review by ANCC staff and the chair of the Content Expert Panel (CEP).

The passing score was determined using a criterion-referenced modified Angoff standard setting procedure.

**Finding 18:** The ANCC FNP-BC examination incorporates minimum competency standards by which candidate performance can be evaluated. This practice meets professional guidelines and technical standards.

**Finding 19:** The training of the SMEs and the modified Angoff passing score setting method are consistent with professional guidelines and technical standards.

## PASSING RATES

**Finding 20:** Passing rates are within professional guidelines and technical standards.

| YEAR | FIRST TIME TEST TAKER<br>PASSING RATE |
|------|---------------------------------------|
| 2018 | 86%                                   |
| 2019 | 87%                                   |
| 2020 | 86%                                   |

## CONCLUSIONS AND RECOMMENDATIONS

The passing score determination process conducted by ANCC demonstrates a sufficient degree of validity, thereby meeting professional guidelines and technical standards. To reduce the potential for conflict of interest during standard setting processes, OPES recommends phasing out the service of instructors.

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## CHAPTER 5 | TEST ADMINISTRATION AND SCORE REPORTING

The central goal driving test administration design and procedures is the need “to provide accurate, fair, and comparable measurement for everyone” (2014 Standards, p. 111). Test administration procedures should be standardized to ensure the “usefulness and interpretability of test scores” (2014 Standards, p. 111). Interpretation of ANCC FNP-BC test scores as valid measures of candidate knowledge of family NP practice can only be made if the test scores are not “unduly influenced by idiosyncrasies in the testing process” (2014 Standards, p. 65).

However, standardization is only desirable to the extent that it provides candidates with equal opportunity to demonstrate their knowledge. Accessibility, reasonable test accommodations, and candidates’ rights to information about test content and purposes before testing are important considerations when meeting the goal of accurate, fair, and comparable measurement for everyone.

### TEST ADMINISTRATION AND SCORE REPORTING STANDARDS

**Standard 4.16** specifies that “the instructions presented to test takers should contain sufficient detail so that test takers can respond to a task in the manner that the test developer intended. When appropriate, sample materials, practice or sample questions, criteria for scoring, and a representative item identified with each item format or major area in the test’s classification or domain should be provided to the test takers prior to the administration of the test, or should be included in the testing material as part of the standard administration instructions” (2014 Standards, p. 90). A *Comment on Standard 4.16* states that “any practice materials should be available in formats that can be accessed by all test takers” (2014 Standards, p. 91).

**Standard 6.1** specifies that “test administrators should follow carefully the standardized procedures for administration and scoring specified by the test developer and any instructions from the test user” (2014 Standards, p. 114).

**Standard 6.2** pertains to test accommodations. It requires that, if “formal procedures have been established for requesting and receiving accommodations, test takers should be informed of these procedures in advance of testing” (2014 Standards, p. 115).

**Standard 6.3** specifies that “changes or disruptions to standardized test administration procedures or scoring should be documented and reported to the

test user” (2014 Standards, p. 115). Additionally, test sites are required to be free of distractions or environmental conditions that may unduly influence test scores.

**Standard 6.4** specifies that the environment at a test site “should furnish reasonable comfort with minimal distractions to avoid construct-irrelevant variance” (2014 Standards, p. 116).

**Standard 6.5** specifies that candidates “should be provided appropriate instructions, practice, and other support necessary to reduce construct-irrelevant variance” (2014 Standards, p. 116).

**Standard 8.1** states: “Information about test content and purposes that is available to any test taker prior to testing should be available to all test takers. Shared information should be available free of charge and in accessible formats” (2014 Standards, p. 133).

The *Comment on Standard 8.1* clarifies the intent of the standard. Basic, general information about the test should be accessible to all test takers. This is to ensure “equitable treatment for all test takers with respect to access to basic information about a testing event” (p. 133).

**Standard 8.2** states: “Test takers should be provided in advance with as much information about the test, the testing process, the intended test use, test scoring criteria, testing policy, availability of accommodations, and confidentiality protection as is consistent with obtaining valid responses and making appropriate interpretations of test scores” (2014 Standards, p. 134).

The information in this chapter was obtained from the 2017 *ANCC Exam Candidate Handbook*, the ANCC website, and a letter from ANCC.

## ACCESS TO TEST CENTERS

The ANCC FNP-BC examination is administered throughout the year by live, secure remote proctoring or by computer at over 100 Prometric testing centers throughout the U.S. International testing is also available. Prometric test center administrators and examination proctors receive training about how to administer and proctor secure examinations.

**Finding 21:** Prometric provides candidates access to test centers across the U.S. and internationally, as well as the option of live remote proctoring.

## INSTRUCTIONS

Test administration is accompanied by instructions on the use of computer equipment and by a brief tutorial before the examination begins. This ensures standardized administration of the examination.

## TEST ACCOMMODATIONS

ANCC complies with the Americans with Disabilities Act and provides reasonable accommodations to candidates with documented disabilities or medical conditions. In addition to an application to test, candidates who require testing accommodations must submit a Request for Special Examination Accommodations form that indicates the accommodation requested to address functional limitations. In addition, candidates are required to submit an evaluation report completed by a qualified health care professional, who has treated the candidate within the past 3 years, which includes information regarding the candidate's disability or diagnosis and recommendations for accommodation. A link to the form can be found in the *2017 ANCC Exam Candidate Handbook*, along with requirements for testing accommodations. Applications and accommodation requests are approved by ANCC.

**Finding 22:** The examination accommodations procedure meets professional guidelines and technical standards.

## CANDIDATE REGISTRATION

ANCC has a detailed examination application process that candidates can easily navigate on the ANCC website. Candidates can verify their eligibility to take the examination, apply online, and check the status of their application. Once approved, a candidate has 90 days to take their examination. The examination registration process is done on Prometric's website; the process is simple to understand and straightforward. The ANCC website provides information about ANCC FNP-BC examination policies and procedures, and the Prometric website provides detailed information regarding testing center regulations. Between both websites, candidates can find material on all necessary steps related to the examination process.

The *2017 ANCC Candidate Handbook*, which can be found on the ANCC website, provides detailed information about examination application, registration, and test administration.

**Finding 23:** The ANCC examination application process and the Prometric registration process are straightforward. These processes meet professional guidelines and technical standards.

## INFORMATION AND INSTRUCTIONS AVAILABLE TO CANDIDATES PRIOR TO TESTING

ANCC provides current and prospective candidates with a wide variety of information concerning the ANCC FNP-BC examination through its website at [www.nursingworld.org/ancc](http://www.nursingworld.org/ancc). In addition, the *2017 ANCC Candidate Handbook* provides detailed information to candidates regarding:

- Examination information
- Examination preparation and resources
- Sample questions
- Examination scoring and results
- Examination eligibility requirements
- Examination scheduling and application procedures
- Testing center procedures and administration
- Testing accommodations
- Examination regulations and testing center rules of conduct
- Examination privacy and security
- Examination irregularities and appeals

In addition, the ANCC website offers candidates ANCC FNP-BC examination practice questions and other examination resources such as reference lists.

The *2017 ANCC Candidate Handbook* provides information about the number of items on the examination (175 items, of which 150 are scored and 25 are pretest); the amount of time available to take the examination (3.5 hours); and available test windows (90-day test windows are offered throughout the year). The ANCC FNP-BC examination is a computerized fixed form examination. Candidates may take breaks, but the time is counted against the total time for the examination.

Resources such as the ANCC FNP-BC examination content outline and sample items are made available on ANCC's website.

**Finding 24:** The ANCC website provides extensive information to candidates regarding all aspects of the examination and testing process.

## SCORE REPORTING AND RETEST POLICY

After a candidate finishes the examination, the candidate immediately receives a preliminary, unofficial pass–fail result designation at the test center. Candidates who did not pass receive diagnostic material. Official pass–fail designations are mailed to the candidate within 4 weeks after taking the examination. Candidates who pass are not provided with an examination score.

After a candidate completes the examination, their raw score (the number of items that the candidate answered correctly) is converted to a scaled score so that it can be expressed on a scale on which the passing point is set at 350.

**Finding 25:** The use of scaled scores and classical item analysis statistics is consistent with professional guidelines and technical standards.

Additionally, the ANCC website provides information about retest policies. Candidates can take the ANCC FNP-BC examination no more than three times in a 12-month period and must wait 60 days between examinations. Fees are due for each attempt of the examination.

## CONCLUSIONS AND RECOMMENDATIONS

The test administration procedures put in place by ANCC and Prometric sufficiently meet professional guidelines and technical standards.

As stated in DCA’s Departmental Procedures Memorandum on Examination Security (DPM OPES 22-01), online or remote proctoring is not recommended for high-stakes examinations. Remote proctoring presents an increased risk of item harvesting and examination subversion.

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## CHAPTER 6 | TEST SECURITY

Test security is a critical component of test development and administration. It directly affects the integrity and validity of test score interpretations and the costs associated with examination development (*2014 Standards*).

The *2014 Standards* specify that organizations and individuals who are in possession of or have control of test materials are responsible for taking necessary measures to ensure test security. These measures should include ways to ensure that access to test materials is restricted to only those individuals who have legitimate needs and qualifications to access the materials.

### TEST SECURITY STANDARDS

The following standards are most relevant to test security for licensure/credentialing examinations, as referenced in the *2014 Standards*.

#### **Standard 6.6**

Reasonable efforts should be made to ensure the integrity of test scores by eliminating opportunities for test takers to attain scores by fraudulent or deceptive means (p. 116).

#### **Standard 6.7**

Test users have the responsibility of protecting the security of test materials at all times (p. 117).

#### **Standard 7.9**

If test security is critical to the interpretation of test scores, the documentation should explain the steps necessary to protect test materials and to prevent inappropriate exchange of information during the test administration session (p. 128).

#### **Standard 8.9**

Test takers should be made aware that having someone else take the test for them, disclosing confidential test material, or engaging in any other form of cheating is unacceptable and that such behavior may result in sanctions (p. 136).

## Standard 9.21

Test users have the responsibility to protect the security of tests, including that of previous editions (p. 147).

Unless otherwise specified, the information in this chapter was obtained from the *2017 ANCC Candidate Handbook*, the *Prometric Test Center Regulations*, and a letter from ANCC.

With regard to examination development, ANCC's and Prometric's policies and procedures appear to adequately protect test security as described in DPM OPES 22-01. For example, SMEs are required to sign confidentiality agreements and are instructed about test security. In addition, item writing work is completed and submitted through a secure web-based application.

Prometric, through its internal test administration and security protocols, provides a robust framework of test site and test security policies and procedures. Prometric uses security measures to protect all examination material and candidate information. The file servers are maintained in highly secure areas, and the test workstations are disabled from performing any function that could result in a threat to security. Proctors at Prometric testing centers are trained to recognize potential test security breaches, and every location is monitored with advanced security equipment and subjected to multiple random security audits. ANCC actively monitors test results for test anomalies and receives data forensics for all test centers including live remote proctoring. In addition, the *2017 ANCC Candidate Handbook* and the *Prometric Test Center Regulations* describe in detail what constitutes improper acts and unethical conduct on the part of candidates and the consequences of such actions.

The *2017 ANCC Candidate Handbook* addresses the following areas regarding security:

- Candidates must present a U.S. driver's license, passport, military ID, or state ID. The name on the ID must match the name on the admission letter, and the photo must be recognizable as the person that the ID was issued to.
- Candidates are prohibited from leaving the examination area without permission, and they must provide their photo ID for reentry into the examination area.
- Candidates are required to empty and turn pockets inside out before entering the examination area.
- Candidates are required to remove their eyeglasses for close visual inspection upon



check-in and after breaks.

- Candidates are prohibited from communicating with other candidates.
- Candidates are prohibited from requesting information from proctors and examiners about the examination.
- Candidates are prohibited from bringing any cellular phones, electronic devices, materials, or personal belongings into the examination rooms.

ANCC offers the ANCC FNP-BC examination both in person and by remote proctoring. To sit for an in-person examination, Prometric requires candidates to provide current and valid government-issued identification. The identification must include a photograph and match the scheduling permit the candidates receive after registering for the examination. Candidates are prohibited from bringing any personal belongings into the testing rooms, and test center administrators verify that candidates' pockets are empty. Observation of the testing sessions at Prometric is aided by use of audio and video monitors and recording and other equipment available at the test centers. All testing sessions for the ANCC FNP-BC examination are monitored by staff at the test center.

Procedures are in place to mitigate examination subversion in remote settings. Prometric continuously monitors the candidates during the remote testing process and disconnects tests for any unusual or bad behavior, and then notifies ANCC via incident reports. Candidates are not allowed to exit their location or have anyone else including animals in the room with them. They must sit up, be in a clean environment with only one monitor, and sit at a desk. The examination is offered using proprietary software. This software locks down the computer's browser and will detect suspicious activity and report it. The proctor is assisted by AI software that detects suspicious movements by the candidate. Video recording of the candidate, as well as a 360-degree check of the room, help to ensure adherence to security requirements. ANCC continuously monitors the live remote proctoring environment, and data forensics has not identified any anomalies related to use of live remote proctoring. However, all remote security systems are susceptible to subversion, and items may be relatively easily harvested by technically competent candidates. Consequently, remote proctoring increases the likelihood that examination questions could be compromised.

**Finding 26:** Prometric's in-person test administration is consistent with professional guidelines and technical standards.

**Finding 27:** Prometric's remote proctoring is consistent with current best practices but presents an increased risk of item harvesting and examination subversion.

## CONCLUSIONS AND RECOMMENDATIONS

ANCC's and Prometric's test security procedures appear consistent with best industry practices and meet technical standards. However, as stated in DPM OPES 22-01, online or remote proctoring is not recommended for high-stakes examinations.

## CHAPTER 7 | COMPARISON OF THE FNP-BC EXAMINATION CONTENT OUTLINE TO THE CALIFORNIA DESCRIPTION OF PRACTICE OF FAMILY NPs

For the ANCC FNP-BC examination to be used as one of the requirements for independent NP practice in California as defined by B&P Code § 2837.103, the competencies assessed by the ANCC FNP-BC examination must closely correspond to the competencies required to practice safely and effectively within the scope defined by the above statute (*2014 Standards*). For this reason, it was important to evaluate whether the ANCC FNP-BC examination content outline adequately assesses the critical entry level competencies required for safe and effective independent performance of the practice of family NPs in California.

As required by B&P Code § 2837.105, the Board and OPES performed an OA of the practice of family NPs in California, as part of the *California 2021 NP OA*. The *California 2021 NP OA* resulted in a description of the independent practice of family NPs. This description of California practice captures the critical tasks performed by entry level family NPs in California, within the scope defined by B&P Code § 2837.103 for practice without Standardized Procedures and in specified settings and organizations, and the knowledge required to perform those tasks safely and effectively.

### LINKAGE STUDY WORKSHOP PURPOSE AND GOALS

OPES test specialists convened a two-day workshop, the first day on November 3, 2021 and the second day on November 18, 2021. The workshop had two purposes: (1) to link the content of the ANCC FNP-BC examination to family NP practice in California (as defined by the *California 2021 NP OA*) and (2) to evaluate the extent to which the ANCC FNP-BC examination assesses the competencies required to practice safely and effectively as a family NP in California (as defined by the *California 2021 NP OA* and B&P Code § 2837.103).

The goal of the workshop was to compare the ANCC FNP-BC examination content to California family NP practice and answer the following questions:

1. Do all ANCC FNP-BC tasks link to the California description of family NP practice?
2. Do the ANCC FNP-BC tasks assess all critical competencies required to practice safely and effectively in California?
3. What critical competencies are not assessed by the ANCC FNP-BC examination, if any?

## PARTICIPATION OF SUBJECT MATTER EXPERTS

With guidance from OPES, the Board recruited six SMEs to participate in the workshop. The SMEs were certified family NPs. The SMEs were selected to represent the profession in both northern and southern California.

Before the workshop, the SMEs completed security agreements and personal data forms documenting demographic information.

## TRAINING OF SUBJECT MATTER EXPERTS

OPES test specialists provided an orientation on the first day of the workshop. OPES test specialists explained the project background of the workshop, the purpose of the workshop, and the role of the SMEs. Once the SMEs understood the purpose of the workshop, OPES test specialists trained the SMEs on the evaluation and linkage process and procedures. The SMEs were instructed to evaluate the tasks included in the *ANCC 2018 FNP OA* and link them to the tasks and associated knowledge statements as outlined by the *California 2021 NP OA*.

## LINKAGE PROCESS

The SMEs were provided with an Excel spreadsheet that contained a matrix for linking the California tasks and knowledge statements with the ANCC FNP-BC tasks. The SMEs were reminded to keep the workshop materials confidential and were asked to return the completed document 6 days later, before the second day of the workshop.

OPES test specialists compiled the data provided by the SMEs. OPES test specialists determined the degree of consensus among the SMEs regarding the linkage of the California tasks and associated knowledge statements to the ANCC FNP-BC tasks and noted the linkages that the SMEs disagreed on. In the second day of the workshop, OPES test specialists initiated discussion with the SMEs of each of the linkages that lacked consensus. The linkages were discussed extensively until consensus was reached. All California tasks and associated knowledge statements were determined to sufficiently link to at least one ANCC FNP-BC task except for those assessing knowledge of California-specific laws and regulations. After the linkages were completed, OPES test specialists asked the SMEs for feedback regarding the evaluation and linkage process. The group discussed potential implications of linkage results.

## LINKAGE RESULTS

The SMEs evaluated the tasks contained in the ANCC FNP-BC examination content outline against the tasks and associated knowledge statements as outlined by the *California 2021 NP OA*.

**Finding 28:** The SMEs concluded that the ANCC FNP-BC examination adequately assesses critical, entry level clinical competencies required for safe and effective family NP practice in California as defined by the *California 2021 NP OA* and B&P Code § 2837.103. However, the ANCC FNP-BC examination does not assess knowledge related to California-specific laws and regulations applicable to family NP practice in California.

## CONCLUSIONS

The content of the ANCC FNP-BC examination, which is based on the *ANCC 2018 FNP-BC OA*, is consistent with the tasks and associated knowledge statements in the description of family NP practice included in the *California 2021 NP OA* for determining competence for entry level California independent practice. The ANCC FNP-BC examination does not assess knowledge related to California-specific NP laws and regulations applicable to family NP practice.

The ANCC FNP-BC examination content outline and the content areas for the *California 2021 NP OA* description of family NP practice are provided in Tables 1 and 2.

TABLE 1 – DOMAINS OF PRACTICE OF THE ANCC FNP-BC EXAMINATION CONTENT OUTLINE

|                                 |  | Items      | Percent Weight |
|---------------------------------|--|------------|----------------|
| <b>I. Assessment</b>            |  | <b>31</b>  | <b>30%</b>     |
| Knowledge                       | Evidence-based population health promotion and screening   | 5          |                |
| Skills                          | Comprehensive history and physical assessment  | 8          |                |
|                                 | Focused history and physical assessment  | 8          |                |
|                                 | Risk assessment (e.g., genetic, behavioral, lifestyle)   | 5          |                |
|                                 | Functional assessment (e.g., cognitive, developmental, physical capacity)  | 5          |                |
| <b>II. Diagnosis</b>            |  | <b>39</b>  | <b>25%</b>     |
| Knowledge                       | Pathogenesis and clinical manifestations of disease states   | 12         |                |
| Skills                          | Differentiating between normal and abnormal physiologic changes  | 17         |                |
|                                 | Diagnostic test selection and evaluation   | 10         |                |
| <b>III. Clinical Management</b> |  | <b>65</b>  | <b>40%</b>     |
| Knowledge                       | Pharmacotherapeutics, pharmacokinetics, pharmacodynamics, and pharmacogenetics   | 8          |                |
|                                 | Anticipatory guidance (e.g., developmental, behavioral, disease progression, crisis management, end-of-life care)                | 10         |                |
|                                 | Age-appropriate primary, secondary, and tertiary prevention interventions  | 6          |                |
| Skills                          | Pharmacotherapeutic intervention selection (e.g., interactions, contraindications)   | 14         |                |
|                                 | Pharmacotherapeutic intervention evaluation (e.g., monitoring, side/adverse effects, patient outcomes)                           | 10         |                |
|                                 | Non-pharmacologic intervention selection and evaluation  | 8          |                |
|                                 | Therapeutic communication (e.g., motivational interviewing, shared decision making)  | 4          |                |
|                                 | Culturally congruent practice  | 2          |                |
|                                 | Resource management (e.g., accessibility, coordination, cost-effectiveness)  | 3          |                |
| <b>IV. Professional Role</b>    |  | <b>15</b>  | <b>5%</b>      |
| Knowledge                       | Legal and ethical considerations for healthcare informatics and technology (e.g., confidentiality, accessibility)                | 2          |                |
|                                 | Scope and standards for advanced practice registered nurses  | 3          |                |
|                                 | Regulatory guidelines (e.g., reportable diseases, abuse reporting)   | 2          |                |
|                                 | Evidence-based clinical guidelines and standards of care   | 3          |                |
|                                 | Ethical and legal principles and issues for patients, populations, and systems (e.g., justice, consent, guardianship, bioethics) | 3          |                |
| Skill                           | Research appraisal (e.g., design, results, clinical applicability)   | 2          |                |
| <b>TOTAL</b>                    |  | <b>150</b> | <b>100%</b>    |

TABLE 2 – CONTENT AREAS OF THE CALIFORNIA 2021 DESCRIPTION OF PRACTICE OF FAMILY NPs

CONTENT AREA 1. PATIENT ASSESSMENT

Section 1A. Patient Health History

Section 1B. Physiological Function and General Health

Section 1C. Psychosocial Functioning and Social Determinants of Health

Section 1D. System Review and Physical Examination

CONTENT AREA 2. DIAGNOSIS OF ILLNESS OR PHYSICAL CONDITIONS ACROSS THE LIFESPAN

CONTENT AREA 3. HEALTH MANAGEMENT

Section 3A. Health Promotion and Management

Section 3B. Referrals and Collaborations

CONTENT AREA 4. PROFESSIONAL ETHICS AND RESPONSIBILITY

CONTENT AREA 5. LEGAL REQUIREMENTS FOR PRACTICE

Section 5A. Regulations Related to Patient Disclosures and Patient Rights

Section 5B. Regulations Related to Nurse Practitioner Requirements

Section 5C. Laws Regarding Independent Practice or Corporation

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## CHAPTER 8 | CONCLUSIONS AND RECOMMENDATIONS

OPES completed a comprehensive analysis and evaluation of the documents provided by ANCC. The procedures used to establish and support the validity and defensibility of the ANCC FNP-BC examination (i.e., OA, examination development and scoring, passing scores and passing rates, test administration and score reporting, and test security procedures) were found to meet professional guidelines and technical standards as outlined in the *2014 Standards* and in B&P Code § 139.

Given the findings regarding the ANCC FNP-BC examination, OPES supports the Board of Registered Nursing's use of the ANCC FNP-BC examination as part of the licensure/credentialing process for an NP who meets the requirements of B&P Code § 2837.103 to practice independently as a family NP in California. The ANCC FNP-BC examination does not assess knowledge related to California-specific laws and regulations applicable to family NP practice in California.

However, OPES finds that the service of instructors in examination development is not fully compliant with *OPES 20-01*, as mandated by B&P Code § 139. OPES recommends phasing out the service of instructors as SMEs. In addition, OPES recommends that when ANCC conducts the next OA, ANCC survey all certified family NPs. Further, as stated in DPM *OPES 22-01*, online or remote proctoring is not recommended for high-stakes examinations.

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## CHAPTER 9 | REFERENCES

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