



REVIEW OF THE PEDIATRIC NURSING CERTIFICATION BOARD (PNCB)  
CERTIFIED PEDIATRIC NURSE PRACTITIONER - PRIMARY CARE  
(CPNP-PC) EXAMINATION



CALIFORNIA BOARD OF REGISTERED NURSING

REVIEW OF THE PEDIATRIC NURSING CERTIFICATION BOARD  
(PNCB) CERTIFIED PEDIATRIC NURSE PRACTITIONER -  
PRIMARY CARE (CPNP-PC) EXAMINATION



July 2022



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This national examination review report is mandated by California Business and Professions (B&P) Code §§ 139 and 2837.105.

## 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 Pediatric Nursing Certification Board (PNCB) Certified Pediatric Nurse Practitioner - Primary Care (CPNP-PC) examination 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 CPNP-PC examination. The primary purpose of the review was to evaluate the suitability of using the CPNP-PC examination for the purpose of authorizing a pediatric NP in primary care who meets the

requirements of B&P Code § 2837.103 to practice independently. OPES evaluated whether the CPNP-PC 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 PNCB to determine whether the following CPNP-PC 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 Standards)* and in B&P Code § 139.

On two separate days in October and November 2021, OPES test specialists convened a teleconference workshop with the participation of subject matter experts (SMEs). The SMEs held CPNP-PC certification and were actively working in pediatric primary care 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 outline of the CPNP-PC examination, based on PNCB's 2017 *Job Task Analysis of Certified Pediatric Nurse Practitioners – Primary Care (CPNP-PC 2017 OA)*, to pediatric NP in primary care practice in California, as defined in the 2021 *California Occupational Analysis of the Nurse Practitioner Practice and Practice Specialties (California 2021 NP OA)*; and (2) to evaluate the extent to which the CPNP-PC examination assesses the competencies required to practice safely and effectively as a pediatric NP in primary care in California.

The SMEs evaluated the tasks contained in the *CPNP-PC 2017 OA* examination content outline against the California tasks and associated knowledge statements as outlined by the *California 2021 NP OA*. The SMEs completed linkages for every California task and its associated knowledge statements with CPNP-PC tasks. The results of the evaluation and linkage indicate that the CPNP-PC examination adequately assesses critical, entry level clinical competencies required for safe and effective pediatric NP in primary care practice in California as defined by the *California 2021 NP OA* and B&P Code § 2837.103. The CPNP-PC examination does not assess knowledge related to California-specific laws and regulations.

OPES supports the Board's use of the CPNP-PC examination as part of the licensure/credentialing process for NPs who meet the requirements of B&P Code § 2837.103 to practice independently as pediatric NPs in primary care 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 Pediatric Nursing Certification Board (PNCB) Certified Pediatric Nurse Practitioner - Primary Care (CPNP-PC) examination is a national board certification examination used to qualify NPs to practice as a pediatric NP in primary care in California under Standardized Procedures. AB 890 mandated that OPES review the CPNP-PC examination for use in the Board's proposed NP examination process. The purpose of the review was to evaluate the suitability of using the CPNP-PC examination in the Board's process for authorizing pediatric NP in primary care practice. OPES' review included the following:

1. Determining whether the CPNP-PC examination meets the professional guidelines and technical standards outlined in the *Standards for Educational and Psychological Testing (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 pediatric NP in primary care practice in California that the CPNP-PC examination does not assess.

OPES recognizes that evaluating the suitability of the CPNP-PC 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 PNCB to determine whether the following CPNP-PC 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 CPNP-PC examination assesses the competencies required to practice safely and effectively as a pediatric NP in primary care in California (as defined by the *California 2021 NP OA* and B&P Code § 2837.103).

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

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## CHAPTER 2 | OCCUPATIONAL ANALYSIS

For CPNP-PC 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 pediatric NP in primary care 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.

ACT ProExam Credentialing Advisory Services (ACT ProExam), in collaboration with PNCB, conducted the OA of the pediatric NP in primary care profession. The results of the study are documented in the *2017 Job Task Analysis Report of Certified Pediatric Nurse Practitioners - Primary Care (CPNP-PC 2017 OA)*, developed by ACT ProExam. The information in this chapter was derived from the *CPNP-PC 2017 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 PNCB OA for pediatric NP in primary care practice was completed in 2018. PNCB undertakes OAs of the pediatric NP in primary care profession every 4–7 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 pediatric NP in primary care 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 pediatric NPs in primary care. 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 *CPNP-PC 2017 OA*, an online survey was developed with the participation of a group of 13 SMEs, all holding CPNP-PC certification. The group was established to participate in the project. The SMEs were selected to ensure representation of different demographic and practice-related perspectives. Two SMEs were from California.

Under the psychometric guidance of ACT ProExam, the SMEs developed the survey, beginning with the revision and update of the existing description of practice. The SMEs discussed and revised the domains, tasks, diagnoses, and procedures comprising the existing CPNP-PC examination content outline. After all revisions were made to the examination content outline, the SMEs discussed and finalized a draft practice analysis survey.

After the main survey was administered and the data were gathered, the group of SMEs analyzed the survey results to build consensus around the examination content outline and examination specifications. The SMEs participated in the development of a final detailed examination content outline consisting of the domains, validated tasks, ranked clinical problems, and validated procedures.

The SMEs then participated in the development of the examination specifications, which indicated the percentage weights for the domains. SMEs considered the results of a weighting formula, the results of the survey, their own expert judgments, and their own recommended percentage weights for the 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 ACT ProExam with the assistance of PNCB staff and the group of 13 SMEs. ACT ProExam staff, including qualified psychometricians, prepared the draft practice analysis survey, which was discussed and finalized by the SMEs.

The final survey included the following sections: Tasks, Domains, Procedures, Evaluation of Survey Comprehensiveness, Demographic and Professional Questions, and Exploration of Continuing Competence and Career Advancement. Each section had a specific rating scale.

For the Tasks section, respondents were asked to indicate the importance of each of the 63 tasks on a 4-point scale and to indicate how frequently they performed each task on a 5-point scale.

For the Domains section, respondents were asked to indicate the importance of each of the four domains on a 4-point scale and also to state the percentage of their work spent in each domain of practice.

For the Procedures section, respondents were asked to rate the frequency with which they perform each of 27 procedures on a 5-point scale.

The draft survey was pilot tested with a random sample of 20 pediatric NPs in primary care representing the profession in terms of a variety of practice settings and geographic areas. Both the pilot survey and the final survey were implemented online through a proprietary software platform.

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

## Survey Sample

The survey was administered to all 16,014 actively certified pediatric NPs in primary care in the U.S. and Canada. Undeliverable invitations were excluded, as well as responses from recipients who indicated they had not provided care to children during the past 12 months, resulting in 15,344 valid invitations.

A total of 1,509 sufficiently completed surveys were received in response to the 15,344 valid invitations, resulting in a response rate of 9.8%. According to the SMEs and ACT ProExam staff, the final respondent sample appeared to be representative of the population of pediatric NPs in primary care. All but seven survey respondents were from the U.S. (five indicated that they were from Canada, and two that they reside outside the U.S. and Canada). The respondents were asked the state in which their primary practice setting is located, and 7.3% of the respondents selected California. California had the second highest proportion of respondents of any state.

The respondents were pediatric NPs in primary care from throughout the U.S. and Canada. Of the respondents, 50% reported that they had been practicing 10 years or fewer. The majority reported working 40 hours or more per week. Of the total respondents, the majority categorized their primary employment setting as private practice.

**Finding 3:** The intent of the sampling plan was reasonable and meets professional standards and technical guidelines. The final respondent sample appears to be representative of the target population. NPs in California were included in the final respondent sample.

## Survey Results

The key findings indicated that all of the tasks, domains, clinical problems, and procedures represent a valid description of the specific elements of the practice of pediatric NPs in primary care.

Task ratings obtained from the survey were analyzed and averaged. Each task received a mean frequency rating and a mean importance rating. The SMEs found that the differences in ratings between tasks accurately reflected different practice patterns for subgroups of survey respondents.

Thresholds for the frequency ratings and the importance ratings were also determined. Tasks had to meet these thresholds to be included in the final content outline.

Regarding domain ratings, the findings showed that the respondents spent the greatest amount of time performing tasks related to the domain Assessment and Diagnosis,

followed by Health Maintenance and Promotion, Management, and Professional Role and Responsibilities. In addition, all domains were rated as important (see Table 1 – Domains of Practice of the CPNP-PC Examination Content Outline).

Clinical Problems were sorted by respondents into the categories of most frequently seen and least frequently seen. Survey results showed head, eye, ear, nose, and throat (HEENT) and dermatology problems to be the most frequently seen problems. Problems categorized under environmental health and toxicology were rated as least frequently seen.

Ratings were obtained from the survey for procedures performed. The procedures performed most frequently were rapid tests and cerumen removal. ACT ProExam staff recommended, and the SMEs determined, that for a procedure to be included in the examination content outline, at least 50% of the respondents had to report performing it at least some of the time.

### **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 final detailed examination content outline consisted of the domains, validated tasks, ranked clinical problems, and validated procedures.

Finally, examination specifications were developed, and SMEs determined the final percentage weights for the domains. To determine the percentage of examination items for each domain on an examination form, a formula widely used in the certification industry was used. The formula equally weighs the rated time spent in each domain and each domain's rated importance.

**Finding 4:** The linkage between the tasks required by entry level pediatric NPs in primary care and the domains of the CPNP-PC certification examination demonstrates a sufficient level of validity, thereby meeting professional guidelines and technical standards.

## **CONCLUSIONS**

The OA conducted by ACT ProExam is consistent with professional guidelines and technical standards. Additionally, the development of the specifications for the CPNP-PC examination is based on the results of the *CPNP-PC 2017 OA* and meets professional guidelines and technical standards.

## 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.



The information in this chapter was derived from the PNCB *Exam development policy (2021)*; *2021 PNCB Item Writing Manual*; and PSI's *Procedures for Ensuring Consistency for Computer Based Examinations (2019 CBE Procedures)*.

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

Participation of representative and diverse groups of certified, practicing pediatric NPs in primary care 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.

SMEs selected by PNCB participate in the CPNP-PC examination development performed by PNCB. SMEs participate in item writing, item review, linking of each item to the examination 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 PNCB certifications, must work at least an average of 20 hours per week in clinical practice relating to the credential, and must meet conflict-of-interest requirements (i.e., must not teach a PNCB exam-prep course). An initial 3-year commitment as an item writer is required. SMEs must attest to NOT being involved in teaching examination preparation or review courses, or in authoring textbooks that prepare candidates for the credential.

SMEs receive extensive in person and/or online item writing training developed by PNCB. Items are written to one of three cognitive levels: recall, application, or analysis, depending on the objective of the question. Item writing work is completed and submitted to PNCB remotely through a secure web-based application used by PNCB for the creation, submission, and review of examination items.

SMEs are required to 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 PNCB mentors, who may provide feedback during the item writing process. SMEs must use the feedback to improve the items before submitting them by the final deadline.

**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. PNCB has procedures in place to prevent SMEs with a potential conflict of interest from writing items for the CPNP-PC examination.

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

**Finding 8:** Item development guidelines used by PNCB 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 with a minimum of 100 test-takers as part of regular test administrations. Each CPNP-PC examination form consists of 175 multiple choice items, with 150 scored and 25 pretest (unscored) items. At least three SMEs must approve a pretest item before it is included on an examination form.

The 25 pretest items are administered to obtain performance statistics. PNCB SMEs review the 25 items and their statistics before an item is approved for inclusion as a scored item on the CPNP-PC examination. Questions that seem problematic are revised or discarded. The item review process includes validating the accuracy of the item, the currency and relevance of the item's content as related to practice, and 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, including having no conflicts of interest.

**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 CPNP-PC examination is constructed according to the examination content outline, which was derived from the *CPNP-PC 2017 OA*. The four domains of the CPNP-PC examination content outline are: Health Promotion and Maintenance, Assessment and Diagnosis, Management, and Professional Role and Responsibilities.

Linkage of items to the examination content outline is performed through a reclassifying process. The reclassifying process is performed by PNCB staff and PNCB's contracted

examination development vendor, PSI Services LLC (PSI). The process starts with the export of a detailed matrix of existing items from the bank, along with their current classifications. PSI, along with PNCB staff (two of which are SMEs), complete an initial mapping effort of the existing items onto the new examination content outline. Items that do not fit cleanly into a new classification are reviewed by additional SMEs. An item's classification is again reviewed as part of examination form creation.

**Finding 10:** Items are assigned to domains by PSI examination development staff and PNCB staff. The steps taken to link the examination items to the domains are consistent with professional guidelines and technical standards.

Examination forms are created by PNCB examination development staff in collaboration with PSI's test development and psychometric teams. Items are selected for an examination form based on the examination content outline and statistical targets. The process begins with discussions about different variables that can affect examination form construction, such as whether pre- or post-equating or standard setting will be used. Activities, reviews, and approvals are completed to ensure that examination forms fully comply with all examination specifications.

After a form is created, it is reviewed by a minimum of five SMEs who hold the examination's credential and who are not current item writing or item review SMEs. The SMEs review the form to confirm that there are no overlapping items, no items that give clues to the correct answer, and no items that do not reflect current practice.

All examination forms are created using the same criteria to ensure that forms are comparable in terms of content and item difficulty. According to the *2019 CBE Procedures*, pre-equating is used to establish production of similar raw score scales for comparable candidate groups previously tested with other forms of the examination. The projected equitable passing score for the new forms is derived by linear equating to a passing point for an examination form originally based on a criterion-referenced modified Angoff standard-setting procedure. Score equating occurs before test administration, which is why the procedure is called pre-equating.

According to PNCB's *2021 CPNP-PC Exam Scoring* document, the CPNP-PC examination uses scaled scores that are expressed on a scale on which the passing point is set at 400. Once the final scaled passing score of 400 was determined by PNCB, it was applied to each form of the CPNP-PC examination through equating.

**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.

**Finding 13:** The use of scaled scores and classical item analysis statistics is consistent with professional guidelines and technical standards.

PNCB's contracted examination development vendor, PSI, creates and provides a Test Analysis Report to PNCB annually. The Test Analysis Report is the official summary of the performance of the program and of all examination forms within the previous calendar year. The report includes item analysis to PNCB for each examination form, defining statistical parameters for identifying potentially problematic items. Item analysis is completed and provided to PNCB on a prescribed schedule. In addition, PSI provides psychometric consultation to PNCB to review and interpret data related to estimates of score reliability, decision consistency, standard errors of measurement, and equivalence of forms and/or scores. PSI also provides guidance on how to address aberrancy in data. Item statistics (i.e., item difficulty and discrimination) are provided to SMEs during item review meetings.

**Finding 14:** The scoring criteria are applied equitably to ensure the validity and reliability of the examination results. The examination scoring process meets professional guidelines and technical standards.

**Finding 15:** The steps taken by PSI to score the CPNP-PC examination appear to provide a fair and objective evaluation of candidate performance. The steps taken by PSI to evaluate examination performance appear valid and legally defensible and meet professional guidelines and technical standards.

## CONCLUSIONS

CPNP-PC item development, examination construction, and scoring procedures appear consistent with professional guidelines and technical standards related to 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).

The information in this chapter was obtained from (1) the PSI 2018 report *A Passing Point Study for the Primary Care Certified Pediatric Nurse Practitioner (PSI 2018 Standard Setting Report)*; and (2) PNCB’s 2021 *CPNP-PC Exam Scoring* document.

## PARTICIPATION OF SUBJECT MATTER EXPERTS

SMEs selected by PNCB participated in the standard setting process. According to the *PSI 2018 Standard Setting Report*, a group of 10 SMEs were selected for standard setting. All the SMEs had expertise in the content areas assessed by the CPNP-PC examination and held the CPNP-PC certification. During selection, importance was placed on ensuring representativeness.

*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 licensure examination standard setting processes. This is due to potential conflict of interest, undue influence, and security considerations. Faculty members were specifically excluded from the group of 10 SMEs involved in standard setting.

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

## STANDARD SETTING METHODOLOGY

To describe how much content mastery is required for candidates to pass the CPNP-PC 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 PSI staff, including qualified psychometricians, and employs SMEs to set the passing score. The process is described in the *PSI 2018 Standard Setting Report*.

The SMEs were first instructed and trained on all aspects of the standard setting procedure. The standard setting process consisted of the following three steps: (1) definition of minimum competence, (2) rating of examination items, and (3) consideration of empirical data. The SMEs worked collectively during a single meeting to complete all three steps and recommended the minimum score that a candidate had to achieve to be judged minimally competent to obtain the certification. The recommendation was made to PNCB, who discussed the results of the standard setting procedure to determine the passing score to be used for the CPNP-PC examination. The passing score was determined using a criterion-referenced modified Angoff standard setting procedure. PSI psychometricians calculated confidence intervals for consideration in making adjustments to the final cut score. PNCB officials, including a relevant member of the Board of Directors, unanimously approved implementation of the raw passing score point for the CPNP-PC examination (*PSI 2018 Standard Setting Report*).

**Finding 17:** The CPNP-PC examination incorporates minimum competency standards by which candidate performance can be evaluated. This practice meets professional guidelines and technical standards.

**Finding 18:** The training of the SMEs and the modified Angoff passing score setting method are consistent with professional guidelines and technical standards.



## PASSING RATES

The passing rates for the CPNP-PC examination for 2017–2020 for first time test takers are displayed below.

<b>YEAR</b>	<b>FIRST TIME TEST TAKER PASSING RATE</b>
2017	90.00%
2018	87.50%
2019	81.66%
2020	82.01%

## CONCLUSIONS

The passing score determination process conducted by PSI and PNCB demonstrates a sufficient degree of validity, thereby meeting professional guidelines and technical standards.

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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 CPNP-PC test scores as valid measures of candidate knowledge of pediatric NP primary care 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” (Comment on Standard 8.1, 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 *March 2021 PNCB Exam Candidate Handbook* (2021 PNCB Candidate Handbook); PNCB website ([www.pncb.org](http://www.pncb.org)); the *CPNP-PC Exam Resources* webpage on the PNCB website; the 2021 Prometric *Quality Control Policy*; the 2020 *Prometric Test Center Security Guide*; and PNCB email communication dated October 7, 2022.

## ACCESS TO TEST CENTERS

The CPNP-PC examination is administered throughout the year by computer at over 100 Prometric testing centers throughout the U.S., some U.S. Territories, Canada, and the United Arab Emirates (UAE). Prometric test center administrators and examination proctors receive training about how to administer and proctor secure examinations.

**Finding 19:** Prometric provides candidates access to test centers across the U.S., some U.S. Territories, Canada, and the UAE.

## INSTRUCTIONS

Proctors receive standardized instructions based on policies and procedures specific to the CPNP-PC examination. 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 test.

## TEST ACCOMMODATIONS

PNCB 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 12 months, that includes information regarding the candidate's disability or diagnosis and recommendations for accommodation. A link to the form can be found in the *2021 PNCB Candidate Handbook* along with the requirements for testing accommodations. Once the application and accommodation request are approved by PNCB, Prometric requests that the examination registration be made by phone.

**Finding 20:** The examination accommodations procedure meets professional guidelines and technical standards.

## CANDIDATE REGISTRATION

PNCB has a detailed examination application process that candidates can easily navigate on the PNCB website. Candidates can verify their eligibility to take the examination, apply online, and check the status of their application. Once approved by PNCB, candidates will receive a 90-day testing window to schedule their examination on Prometric's website. Candidates can also call Prometric to schedule their examination within the testing window. The examination registration process on Prometric's website is simple to understand and straightforward. The PNCB website provides information about CPNP-PC 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 *2021 PNCB Candidate Handbook*, which can be found on the PNCB website, provides detailed information about examination application, registration, and test administration.

**Finding 21:** The PNCB examination application process and the Prometric registration process are straightforward. These processes meet professional guidelines and technical standards.

## INFORMATION AVAILABLE TO CANDIDATES PRIOR TO TESTING

PNCB provides current and prospective candidates with a wide variety of information concerning the CPNP-PC examination through its website. In addition, the *2021 PNCB Candidate Handbook* provides detailed information to candidates regarding:

- Examination information
- Examination preparation and resources
- Practice tests
- Examination scoring and results
- Examination eligibility approval
- Examination fees, 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 PNCB website offers candidates CPNP-PC examination practice questions and other examination resources such as reference lists.

Through the *CPNP-PC Exam Resources* webpage on the PNCB website, PNCB offers practice tests for purchase. The tests are designed to offer in-depth rationale for right answers to enhance critical thinking and help focus a candidate's studies. Each assessment consists of 75 items, and a score report is immediately available after completion of an assessment. In addition, PNCB provides a customer service phone number that candidates can call if they have questions.

The *2021 PNCB 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 hours); available test windows (90-day test windows are offered throughout the year); the type of examination (computerized, fixed form); ability to skip questions and to later return to a skipped question; and breaks (candidates are allowed to break, but the time is counted against them).

Resources such as the CPNP-PC examination content outline and sample items are made available on PNCB's website.

**Finding 22:** The PNCB website provides extensive information to candidates regarding all aspects of the examination and testing process.

**Finding 23:** PNCB charges candidates for practice tests. This does not fully comply with Standard 8.1, which states that all candidates should be provided with the same access to examination information, free of charge. PNCB is considering and exploring options related to practice tests.

## SCORE REPORTING AND RETEST POLICY

After a candidate finishes the examination, the candidate immediately receives a preliminary, unofficial pass or fail result designation on the screen. Candidate results are posted to a portal, usually within 2 weeks. However, PNCB reserves the right to withhold scores for quality review and/or security issues for up to 6 weeks. Candidates who pass are not provided with an examination score. Candidates who fail are emailed a score report within 10 days of taking the examination. The report provides details of the candidate's performance in each major content area of the examination.

After a candidate completes the examination, their raw score (the number of items that they 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 400. Certification examination scores undergo multiple quality reviews by PNCB before being processed. PNCB regularly monitors performance data to detect potentially compromised examination items.

Additionally, the PNCB website provides information about retest policies. Candidates can take the CPNP-PC examination no more than three times in a 12-month period. Candidates who fail must wait 30 days to take the CPNP-PC examination again. If a candidate fails the second attempt, they must wait 90 days and submit either 15 contact hours in each area of weakness or complete a PNP review course. If a candidate fails three times within a year, they must wait 90 days and submit 15 contact hours in each area of weakness or complete a PNP review course, whichever was not submitted after the third attempt. Every retake of the CPNP-PC examination requires that the application process begin again, including payment of re-examination fees and reapproval of eligibility.

## TEST CENTER EMERGENCY PROCEDURES

Prometric, through its internal examination and security protocols, provides training to test center staff in managing threats to the safety of test center staff and candidates. Staff are trained to manage emergency situations that require test center evacuation and bomb threats (*Prometric Test Center Security Guide, 2020*).

## CONCLUSIONS AND RECOMMENDATIONS

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

To fully comply with Standard 8.1 and to increase transparency and fairness, OPES recommends that PNCB offer their practice tests to all registered candidates at no cost.



## 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).

The information in this chapter was obtained from the *2021 PNCB Candidate Handbook* and the *2020 Prometric Test Center Security Guide*.

With regard to examination development, PNCB'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. Observation of the testing sessions is aided by use of audio and video monitors and recording and other equipment available at the test centers. All testing sessions for the CPNP-PC examination are monitored by staff at the test center. In addition, the *2021 PNCB Candidate Handbook* and the *2020 Prometric Test Center Security Guide* describe in detail what constitutes improper acts and unethical conduct on the part of candidates and the consequences of such actions.

The *2021 PNCB Candidate Handbook* addresses the following areas regarding security:

- Candidates must provide two forms of identification, one with a current photograph and one with a signature. 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 must provide current and valid government-issued identification. The identification must match the scheduling permit the candidates receive after registering for the examination.
- 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 bringing any cellular phones, electronic devices, materials, or personal belongings into the examination rooms.

In addition, candidates are not permitted to review their examinations after completion and submission of the examination.

**Finding 24:** Prometric's in-person test administration is consistent with professional guidelines and technical standards.

## CONCLUSIONS AND RECOMMENDATIONS

The PNCB and Prometric security procedures appear consistent with best industry practices and meet technical standards.

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## CHAPTER 7 | COMPARISON OF THE CPNP-PC EXAMINATION CONTENT OUTLINE TO THE CALIFORNIA DESCRIPTION OF PRACTICE OF PEDIATRIC NPs IN PRIMARY CARE

For the CPNP-PC 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 CPNP-PC 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 CPNP-PC examination content outline adequately assesses the critical entry level competencies required for safe and effective independent performance of the practice of pediatric NPs in primary care in California.

As required by B&P Code § 2837.105, the Board and OPES performed an OA of pediatric NP in primary care practice in California, as part of the *California 2021 NP OA*. The *California 2021 NP OA* resulted in a description of California pediatric NP in primary care practice. This description of California practice captures the critical entry level pediatric NP in primary care tasks in California within the scope defined by the statute 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 teleconference workshop, the first day on October 26, 2021 and the second day on November 2, 2021. The workshop had two purposes: (1) to link the content outline of the CPNP-PC examination to pediatric NP in primary care practice in California (as defined by the *California 2021 NP OA*) and (2) to evaluate the extent to which the CPNP-PC examination assesses the competencies required to practice safely and effectively as a pediatric NP in primary care 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 CPNP-PC examination content to California pediatric NP in primary care practice and answer the following questions:

1. Do all CPNP-PC tasks link to the California description of pediatric NP in primary care practice?
2. Do the CPNP-PC tasks assess all critical competencies required to practice safely and effectively in California?
3. What critical competencies are not assessed by the CPNP-PC examination, if any?

## PARTICIPATION OF SUBJECT MATTER EXPERTS

With guidance from OPES, the Board recruited five SMEs to participate in the workshop. The SMEs were NPs who held CPNP-PC certification and were actively working in pediatric primary care settings in California. The SMEs were selected to represent the profession in both northern and southern California. One SME reported that they had been certified for 6–10 years, one for 11–20 years, and three for more than 20 years.

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 *CPNP-PC 2017 OA* examination content outline 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 CPNP-PC 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 CPNP-PC 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 knowledge statements were successfully linked to the CPNP-PC tasks. All California tasks and associated knowledge statements were determined to sufficiently link to at least one CPNP-PC task. After the linkages were completed, OPES test specialists asked the SMEs for feedback regarding the evaluation and linkage process and the lists of tasks and associated knowledge statements. The SMEs indicated that the CPNP-PC tasks appeared to include all duties performed by pediatric NPs in primary care in California and all the knowledge required to perform the duties,

with the exception of the knowledge statements in Content Area 5 – LEGAL REQUIREMENTS FOR PRACTICE.

## LINKAGE RESULTS

The SMEs evaluated the tasks contained in the *CPNP-PC 2017 OA* examination content outline against the tasks and associated knowledge statements as outlined by the *California 2021 NP OA*.

**Finding 25:** The SMEs concluded that the CPNP-PC examination adequately assesses critical entry level clinical competencies required for safe and effective pediatric NP in primary care practice in California. However, the CPNP-PC examination does not assess knowledge related to California-specific laws and regulations applicable to pediatric NP in primary care practice in California.

## CONCLUSIONS

The content of the CPNP-PC examination, which is based on the *CPNP-PC 2017 OA*, is consistent with the tasks and associated knowledge statements in the description of pediatric NP in primary care practice included in the *California 2021 NP OA* for determining competence for entry level California independent practice. The CPNP-PC examination does not assess knowledge related to California-specific nurse practitioner laws and regulations applicable to pediatric NP in primary care practice.

The domains of practice for the CPNP-PC examination content outline and the content areas for the *California 2021 NP OA* description of pediatric NP in primary care practice are provided in Tables 1 and 2.

TABLE 1 – DOMAINS OF PRACTICE OF THE CPNP-PC EXAMINATION CONTENT OUTLINE

<b>Domains of Practice</b>	<b>Percent Weight</b>
Domain 1. Health Promotion and Maintenance	<b>30</b>
Domain 2. Assessment and Diagnosis	<b>35</b>
2A. Growth and Development	
2B. History and Physical Examination	
2C. Diagnostic Testing and Screening	
2D. Analyzing Information	
2E. Diagnosis	
Domain 3. Management	<b>30</b>
3A. Child and Caregiver Counseling and Education	
3B. Therapeutic Interventions	
3C. Procedures	
3D. Collaboration and Referral	
3E. Care Coordination	
3F. Evaluation and Follow-up	
Domain 4. Professional Role and Responsibilities	<b>5</b>
4A. Leadership and Evidence-based Practice	
4B. Practice Management	
4C. Legal and Ethical	
<b>Total</b>	<b>100</b>



**TABLE 2 – CONTENT AREAS OF THE CALIFORNIA 2021 DESCRIPTION OF PRACTICE OF PEDIATRIC NPs IN PRIMARY CARE**

**CONTENT AREA 1. PEDIATRIC ASSESSMENT**

Section 1A. Patient Health History

Section 1B. Pediatric Growth and Development

Section 1C. Psychosocial Functioning and Social Determinants of Health

Section 1D. System Review and Physical Assessments

**CONTENT AREA 2. DIAGNOSIS OF PEDIATRIC ILLNESS OR PHYSICAL CONDITIONS**

**CONTENT AREA 3. PEDIATRIC 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 PNCB. The procedures used to establish and support the validity and defensibility of the CPNP-PC 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 CPNP-PC examination, OPES supports the Board of Registered Nursing's use of the CPNP-PC 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 pediatric NP in primary care in California. The CPNP-PC examination does not assess knowledge related to California-specific laws and regulations applicable to pediatric NP in primary care practice in California.

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