National Board of Certification and Recertification for Nurse Anesthetists
Summary of NCE and SEE Performance and Clinical Experience
September 1, 2015, through August 31, 2016

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Introduction

This report presents a summary of information on individual performance on the National Certification Examination (NCE) and the Self-Evaluation Examination (SEE) over the time frame of NBCRNA's fiscal year 2016 (FY 2016), September 1, 2015, through August 31, 2016.

Performance on the NCE is summarized first, with pass/fail outcomes presented according to several demographic variables: gender, age, clinical background, and type of graduate degree. Trend data summarizing pass rates over the past five years are also provided in the last column of each table for each demographic as well. Readers will note that there was no change to the NCE passing standard in FY 2016; the last time the passing standard was raised was January 1, 2014.

NCE pass rate summaries are followed by an analysis of candidates' responses on a satisfaction survey administered at the end of the NCE. The survey requested information pertaining to candidates' satisfaction with their registration and test experience. Next, descriptive statistics (e.g., mean, standard deviation) are provided for the number of cases performed in various clinical areas by students of nurse anesthesia educational programs who graduated in FY 2016.

Finally, information about scaled scores for the SEE is presented in the last part of the report, summarizing performance by gender, age, clinical background, type of graduate degree, and year in program. Trend data summarizing the past five years in each demographic sub-group are also provided in the final column of each table.

Candidate Performance on the NCE

The information in **Table 1** addresses the performance of candidates on the NCE during the fiscal year reporting period. Pass rates appear separately for first-time and repeat candidates, based on the passing standard that took effect on January 1, 2014. The pass rate for the 2,508 first-time candidates is 84.5%. The pass rate is lower for repeat examinees.

This is comparable to the cumulative first-time pass rate, 86.8%, over the past 5 fiscal years (FY 2011–FY 2016, or September 1, 2011–August 31, 2016, N = 12,339), shown in the final column of **Table 1**. First-time examinee pass rates for the NCE, by year since 2008, can be found in **Table A1** in the Appendix of this report. The first-time NCE pass rate was slightly higher before January 1, 2014, when the passing standard was raised.

Table 1. Pass/Fail Summary for NCE Candidates, FY 2016

First-Time Candidates		Frequency	Percent	5-year Trend %
	Pass	2,119	84.5%	86.8%
	Fail	389	15.5%	13.2%
	Total	**2,508**	**100.0%**	**100.0%**
Repeat Candidates		**Frequency**	**Percent**	**5-year Trend %**
	Pass	352	58.8%	63.4%
	Fail	247	41.2%	36.6%
	Total	**599**	**100.0%**	**100.0%**

Also, NCE total scores and domain-level information for first-time candidates can be found in **Table A2** of the Appendix.

Table 2 (next page) shows the distribution of test length and pass/fail status. Only *first-time* candidates are included in Table 2. Of the candidates who passed, the majority (55.1%) were administered 70 items (not including the 30 unscored pretest items). Only 4.3% of NCE candidates failed the test in 70 items. Approximately 20% of the candidates took the maximum test length of 140 items.

Table 2. Pass/Fail Summary by Test Length for First-Time NCE Candidates, FY 2016

	Frequency	Percent	5-year Trend %
Pass in 70 items	1,382	55.1%	60.6%
Pass in 71 to 139 items	413	16.5%	14.8%
Pass in 140 items	324	12.9%	11.4%
Fail in 70 items	108	4.3%	3.5%
Fail in 71 to 139 items	102	4.1%	3.5%
Fail in 140 items	179	7.1%	6.2%
Total	**2,508**	**100.0%**	**100.0%**

Demographic Characteristics of NCE Candidate Population, FY 2016

The next several tables present pass rates on the NCE grouped by gender, age, clinical background, and degree earned. Only *first-time* candidates are included in these tables. **Table 3** indicates that 60.6% of the NCE candidates were female and 39.4% were male. The pass rates between males and females were very similar, and this observation is consistent with the five-year trend (final column of Table 3).

Table 3. Gender of NCE Candidates, FY 2016

	Pass		Fail		Total		5-year Trend
Gender	N	Percent	N	Percent	N	Percent	Pass %
Female	1,276	84.0%	243	16.0%	1,519	100.0%	86.1%
Male	843	85.2%	146	14.8%	989	100.0%	88.0%
Total	**2,119**	**84.5%**	**389**	**15.5%**	**2,508**	**100.0%**	**86.8%**

Table 4 presents the pass rate by age group. The pass rate decreased as examinee age increased, both for the FY 2016 sample and the five-year trend analysis. Generally speaking, younger students tend to perform better on the NCE. The average age of the FY 2016 *first-time* NCE candidates was 32.1 years.

Table 4. Age of NCE Candidates, FY 2016

	Pass		Fail		Total		5-year Trend
Age	N	Percent	N	Percent	N	Percent	Pass %
Under 30	851	90.4%	90	9.6%	941	100.0%	92.1%
30-35	894	84.3%	167	15.7%	1,061	100.0%	86.7%
36-39	217	81.0%	51	19.0%	268	100.0%	81.7%
40 or more	157	66.0%	81	34.0%	238	100.0%	75.6%
Total	**2,119**	**84.5%**	**389**	**15.5%**	**2,508**	**100.0%**	**86.8%**

Table 5 displays pass rates for candidates' clinical background. Over one-third of the candidates reported their clinical background as ICU/CCU (35.8%). Pass rate comparisons between different clinical settings (Table 5) should be made with caution because some subgroups for the FY 2016 data feature

small sample sizes. Also, the clinical background categories tend not to be mutually exclusive. While examinees report their clinical background as discrete categories, actual experience may be more diverse and complex (e.g. SICU in some facilities may include CVICU patients, and many other permutations).

When comparing pass rates across clinical background subgroups, readers are advised to refer to the 5-year trend column of Table 5. The pass rates in this column are more reliable for comparisons because they are based on a much larger sample. For instance, over the past five years, first-time NCE examinees coming out of PICU, NEURO ICU, and SICU clinical backgrounds appear to exhibit the highest rates of success on the NCE, respectively.

Table 5. Clinical Background of NCE Candidates, FY 2016

Clinical	Pass		Fail		Total		5-year Trend
Background	N	Percent	N	Percent	N	Percent	Pass %
CCU	202	87.1%	30	12.9%	232	100.0%	87.3%
ER	73	83.9%	14	16.1%	87	100.0%	83.8%
ICU/CCU	754	84.0%	144	16.0%	898	100.0%	86.4%
MICU	249	87.7%	35	12.3%	284	100.0%	88.1%
NEURO ICU	146	85.4%	25	14.6%	171	100.0%	88.5%
NICU	21	65.6%	11	34.4%	32	100.0%	80.2%
OR	6	60.0%	4	40.0%	10	100.0%	82.4%
PACU	21	80.8%	5	19.2%	26	100.0%	84.1%
PICU	62	80.5%	15	19.5%	77	100.0%	89.7%
SICU	283	87.3%	41	12.7%	324	100.0%	88.4%
Trauma ICU	150	82.9%	31	17.1%	181	100.0%	85.5%
Other	152	81.7%	34	18.3%	186	100.0%	84.7%
Total	**2,119**	**84.5%**	**389**	**15.5%**	**2,508**	**100.0%**	**86.8%**

Table 6 displays pass rates by degree attained. Just under one-third (33.6%) of the FY 2016 passing first-time NCE examinees attained the MSN degree. Pass rate comparisons between different degrees (Table 6) should be made with caution because some demographic subgroups feature small sample sizes.

When comparing pass rates across clinical background subgroups, readers are advised to refer to the five-year trend column of Table 6. For instance, over the past five years, first-time NCE examinees coming out of MSN programs appear to exhibit the highest rates of success on the NCE.

Table 6. Types of Graduate Degrees Reported by NCE Candidates, FY 2016

Degree Upon Completion	Pass		Fail		Total		5-year Trend Pass %
	N	Percent	N	Percent	N	Percent	
MS Nursing Major	712	85.9%	117	14.1%	829	100.0%	87.8%
MS Nurse Anesthesia	769	83.4%	153	16.6%	922	100.0%	86.3%
Other Masters	365	89.0%	45	11.0%	410	100.0%	86.9%
Post Masters Certificate	4	57.1%	3	42.9%	7	100.0%	79.0%
Doctoral Degree	269	79.1%	71	20.9%	340	100.0%	82.6%
Total	**2,119**	**84.5%**	**389**	**15.0%**	**2,508**	**100.0%**	**86.8%**

Descriptive Information on Number of Clinical Experiences, FY 2016

The tables in this section report data collected about the number of anesthesia cases performed in clinical areas, as submitted by program directors to the NBCRNA for individuals completing nurse anesthesia programs in the reporting period. These data reflect records of clinical experiences submitted for individuals with a graduation date in the fiscal year reporting period, and not the sample of NCE candidates during this time frame. As a result, sample sizes presented in this section will not equal the number of first-time NCE candidates as reported in Tables 1 through 6. Tables 7 through 17 represent frequency distributions for each specific area.

The columns are the same in **Tables 7 through 17**, presenting the following information:

- The first column contains the clinical area in which cases were performed.
- The *N* column represents the number of records submitted in the reporting period.
- The *Number of Cases Required* column indicates the minimum number of cases that must be completed by an applicant in order for the applicant to be deemed eligible to take the NCE. If a minimum number of cases is not required, a "0" is entered in this column. Please refer to the Appendix for a copy of the "Record of Clinical Experience," which documents the required number of cases in each clinical area.
- The *Mean* column indicates the average number of cases reported on the FY 2016 records.
- The *Standard Deviation* column describes the dispersion in the number of cases reported on the FY 2016 records.
- The *Median* column indicates the median number of cases (50th percentile) reported on the records in the reporting period. Half the records contained values higher than this number, and half contained a value below this number.
- The *Minimum* column indicates the smallest number of cases reported on the FY 2016 records.

Table 7. Sections I, II and III: Clinical Experience

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Total Number of Cases	2,476	550	859.2	156.9	834	550
Total Hours of Anesthesia	2,476	0	1,683.9	351.8	1,639	951
Total Clinical Hours	2,476	0	2,604.1	454.1	2,578	242

Table 8. Section IV: Patient Physical Status

Area	N	Number of Cases Required [Preferred]	Mean	Standard Deviation	Median	Minimum
Class I	2,476	0	93.6	44.0	85	10
Class II	2,476	0	379.1	101.1	365	100
Class III & IV	2,476	100	390.8	113.4	383	100
Class V	2,476	0	3.4	3.8	2	0

Table 9. Section V: Special Cases

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Geriatric, 65+ years	2,476	50	230.2	78.2	219	55
Pediatric, 2-12 years	2,476	25	71.5	35.9	64	25
Pediatric, under 2 years	2,476	10	23.0	12.4	20	10
Neonatal, under 4 weeks	2,476	0	1.7	2.3	1	0
Trauma/Emergency	2,476	30	58.6	25.0	53	30
Ambulatory/Outpatient	2,476	100	426.3	173.2	404	100
Obstetrical Mgmt Total	2,476	30	71.8	38.8	61	30
Obstetr Mgmt Cesarean	2,476	10	33.4	18.1	29.5	10
Obstetr Mgmt Analgesia	2,476	10	40.0	27.8	32	10

Table 10. Section VI: Position Categories

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Prone	2,476	20	53.3	26.1	48	20
Lithotomy	2,476	25	86.2	31.8	82	25
Lateral	2,476	5	84.3	52.9	70	6
Sitting	2,476	5	25.5	21.3	19	5

Table 11. Section VII: Anatomical Categories

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Intra-abdominal	2,476	75	181.0	60.9	169	76
Extrathoracic	2,476	15	33.6	14.2	31	15
Extremities	2,476	50	175.7	65.8	167	50
Perineal	2,476	15	98.7	46.3	89	16
Head, Extracranial	2,476	15	67.3	32.8	62	15
Head, Intracranial	2,476	5	14.2	7.9	12	5
Head, Oropharyngeal	2,476	20	87.6	49.2	77	20
Intrathoracic	2,476	15	36.2	15.7	33	15
Heart	2,476	5	19.1	10.7	17	5
Heart, Intrathoracic with CPB	2,476	0	11.9	9.1	11	0
Heart, Intrathoracic without CPB	2,476	0	3.8	5.0	2	0
Lung	2,476	5	10.8	5.5	9	5
Intrathoracic, Other	2,476	0	3.0	5.2	0	0
Neck	2,476	5	23.1	10.4	21	5
Neuroskeletal	2,476	20	45.7	24.7	40	20
Vascular	2,476	10	37.2	17.5	34	10
Other	2,476	0	12.7	41.3	0	0

Table 12. Section VIII: Pharmacological Agents

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Inhalation Agents	2,476	200	587.1	131.4	573.5	206
Intravenous Induction Agents	2,476	200	688.9	178.3	672	244
Intravenous Agents, Muscle Relaxants	2,476	200	448.8	112.7	429	205
Intravenous Agents, Opioids	2,476	200	712.5	195.7	697	200

Table 13. Section IX: Methods of Anesthesia

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
General Anesthesia	2,476	350	604.1	126.6	591	350
Intravenous Induction	2,476	200	515.6	129.4	501.5	201
Inhalation Induction	2,476	10	87.0	51.3	77	11
Mask Management	2,476	25	60.7	68.6	42	25
LMA	2,476	25	109.7	52.2	102	25
Tracheal Intubation/Oral	2,476	200	384.7	89.1	375	200
Tracheal Intubation/Nasal	2,476	0	17.1	13.7	14	0
Total Intravenous Anesthesia	2,476	10	50.5	49.2	34	10
Emergence from Anesthesia	2,476	200	562.4	140.5	551	207
Monitored Anesthesia Care	2,476	25	158.6	88.7	141	25
Regional/Management	2,476	30	109.4	57.9	99	30
Administration	2,476	25	106.5	62.3	91	25
Spinal	2,476	1	42.1	26.7	37	1
Epidural	2,476	1	35.2	24.5	29	1
Peripheral	2,476	1	29.2	38.8	18	1
Methods Regional Admin Peripheral Upper	2,476	0	9.5	13.9	4	0
Methods Regional Admin Peripheral Lower	2,476	0	10.9	21.6	4	0
Methods Regional Admin Peripheral Other	2,476	0	1.5	4.9	0	0

Table 14. Section X: Arterial Technique

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Arterial Puncture/Catheter Insertion	2,476	25	55.1	25.2	49	25
Intra-arterial Blood Pressure Monitoring	2,476	25	79.0	28.7	76	25

Table 15. Section XI: Central Venous Pressure Catheter

Area	N	Number of Cases Required	Mean	Standard Deviation	Med.	Min.
Placement	2,476	5	12.9	9.3	10	5
Monitoring	2,476	15	26.0	11.4	23	15
Central Venous Pressure Catheter Actual	2,476	0	10.0	9.9	8	0
Central Venous Pressure Catheter Actual PICC	2,476	0	0.7	2.7	0	0
Central Venous Pressure Catheter Actual Non PICC	2,476	0	8.6	9.3	6	0
Central Venous Pressure Catheter Simulated	2,476	0	3.0	3.5	2	0

Table 16. Section XII: Pulmonary Artery Catheter

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Placement	2,476	0	5.4	6.8	3	0
Monitoring	2,476	0	13.1	8.8	12	0

Table 17. Section XIII: Other

Area	N	Number of Cases Required	Mean	Standard Deviation	Median	Minimum
Intravenous Catheter Placement	2,476	100	208.2	116.2	171.5	100
Mechanical Ventilation	2,476	200	485.3	115.3	483	200
Pain Management	2,476	0	24.1	52.1	7	0
Alternative Airway	2,476	10	54.7	30.6	49	10
Alt Airway Mgmt: Fiberoptic Total	2,476	5	16.8	13.3	13	5
Alt Airway Mgmt: Fiberoptic Actual	2,476	0	6.8	8.8	4	0
Alt Airway Mgmt: Fiberoptic Simulated	2,476	0	2.9	7.1	1	0
Alt Airway Mgmt: Fiberoptic Assessmt	2,476	0	7.1	6.3	6	0
Other Ultrasound	2,476	0	5.6	17.0	0	0
Other Ultrasound Regional	2,476	0	11.9	23.0	2	0
Other Ultrasound Vascular	2,476	0	5.9	10.6	2	0
Other Techniques	2,476	5	37.6	26.1	33	5

Exit Survey Results

Candidates are important sources of information in NBCRNA's ongoing evaluation of the examination process. Candidates are asked to complete a post-examination survey regarding their testing experience. The post-examination survey consists of the following:

- Six statements related to pre-examination activities such as registration and scheduling, locating the testing center, and interaction with test center staff;
- Nine statements related to aspects of the examination experience such as readability, fairness of test questions, and use of testing software;
- Six statements related to examinee perception of the alternative question formats; and
- Three statements related to exam preparation.

The majority of the survey questions employ a Likert-type rating scale by which respondents indicate their level of agreement with the statement given. For the purposes of this report, the Likert response categories, *Strongly Agree* and *Agree* are combined into a single *Agree* category, and *Strongly Disagree* and *Disagree* are combined into *Disagree*. The survey questions and format were developed by NBCRNA and representatives from Pearson VUE, Inc. Completion of the survey is not required as part of the examination process and is not part of the three-hour time limit. Respondents do not always answer all of the questions, as reflected by the unequal sample size across questions.

Responses were analyzed based on a sample of NCE test takers who were administered the exit survey during the period of September 1, 2015, through August 31, 2016. After each test administration, the test taker can contact the NBCRNA office to address any problems or concerns related to the NCE.

The first seven statements pertain to pre-examination scheduling and registration activities. Nearly all (96.4%) of the NCE candidates who answered the survey during the reporting period indicated that they scheduled their examination on the internet. Responses to the other six survey questions are summarized in **Table 18**.

Table 18. Responses to Survey Questions: Scheduling and Registration

	Agree		Disagree	
Survey Question	**Count**	**Percent**	**Count**	**Percent**
I was able to schedule an acceptable test date.	1,471	93.3%	105	6.7%
I was able to schedule an acceptable test center location.	1,490	94.7%	84	5.3%
The Exam Reservation process was easy to use.	1,558	99.2%	13	0.8%
The test center was easy to locate.	1,196	97.9%	26	2.1%
The Test Center Staff was helpful and knowledgeable.	1,508	99.5%	7	0.5%
The testing center Registration/Check-In Process was handled in a professional and efficient manner.	1,558	99.1%	14	0.9%

The next nine statements relate to mid-administration topics such as the fairness of test questions and readability of the examination. **Table 19** summarizes the responses to these survey questions. Overall (99.0% agreement), the FY 2016 NCE examinees were satisfied with their testing experience.

Table 19. Responses to Survey Questions: Mid-Examination

	Agree		Disagree	
Survey Question	**Count**	**Percent**	**Count**	**Percent**
I thought the examination questions were fair.	1,306	85.4%	223	14.6%
The graphs, figures, and diagrams in the questions were easy to read.	1,422	93.4%	101	6.6%
The graphs, figures, and diagrams in the questions fit onto the screen.	1,269	83.4%	253	16.6%
I was able to 'scroll' the test window in order to view an entire graph or figure in a question.	1,495	98.2%	27	1.8%
The areas of the content outline were fairly represented.	1,320	86.4%	208	13.6%
My testing environment was clean, quiet, and comfortable.	1,560	99.2%	13	0.8%
I encountered no technical problems with the test administration software.	1,551	98.6%	22	1.4%
The test administration software was user-friendly.	1,530	99.5%	8	0.5%
Overall, I was satisfied with my testing experience.	1,556	99.0%	15	1.0%

Since August 2009, NBCRNA has administered alternative question formats on the NCE in addition to traditional multiple-choice items. These question formats include multiple correct response (MCR, where the examinee is asked to select an indicated number of correct responses), short answer/calculation (SA, where the examinee types in short, numerical responses), drag and drop (used for matching or ordering questions), and hotspot (in which an examinee points and clicks on the correct region of an image). A random sample (N = 1,579) of examinees was given the opportunity to record feedback on these question formats. **Table 20** summarizes the responses to six survey questions related to the MCR, SA, drag and drop, and hotspot question formats.

Table 20. Responses to Survey Questions: Alternative Question Formats

	Agree		Disagree	
Survey Question	**Count**	**Percent**	**Count**	**Percent**
The questions in the Multiple Correct Response format were fair.	1,358	89.0%	168	11.0%
The questions in the Short Answer/Calculation format were fair.	1,353	90.9%	135	9.1%
The questions in the Drag and Drop format were fair.	1,464	95.7%	66	4.3%
The questions in the Hotspot format were fair.	1,405	92.7%	110	7.3%
I understood how to respond to the questions in the alternative formats.	1,406	97.6%	34	2.4%
I needed help figuring out how to respond to the questions in the alternative formats.	518	34.1%	1,001	65.9%

Responses to the last three items on the exit survey, addressing methods that candidates used to prepare for the examination, are summarized in **Table 21**. Of the NCE examinees testing in FY 2016, 59.6% stated that the SEE helped them. The majority (92.9%) attended a review course, while 7.1% did not. Finally, 82.4% reported that their nurse anesthesia educational program featured computerized testing.

Table 21. Responses to Survey Questions: Preparation for the NCE

Survey Question	Response	Count	Percent
Taking the SEE helped prepare me to take the certification examination.	Agree	808	59.6%
	Disagree	548	40.4%
If you took a review course in preparation for this examination, please indicate below which review course you took.	Valley Anesthesia	911	59.5%
	Core Concepts	72	4.7%
	Howard Review	1	0.1%
	R&R Board Review	3	0.2%
	PACES	265	17.3%
	CRNA Secrets	2	0.1%
	Review Course at AANA Annual Meeting	1	0.1%
	NARC4U	2	0.1%
	Other commercial	126	8.2%
	Course Organized by My Program	39	2.5%
	Did Not Take	108	7.1%
Please indicate below if your nurse anesthesia educational program featured any academic tests using computer based testing.	Yes	1,261	82.4%
	No	269	17.6%

Demographic Characteristics of the SEE Candidate Population, FY 2016

The following tables summarize performance on the SEE according to demographic variables, including gender, age, clinical background, and degree. Within each demographic, the scores are presented by year in the program. Also, the column in the extreme-right of each table displays the five-year trend average (FY 2010–FY 2016, or September 1, 2009–August 31, 2016, N = 16,475) for each demographic subgroup. In addition, summaries of SEE total scores and domain-level information can be found in **Table A3** of the Appendix.

Table 22 summarizes SEE scores by gender: 41.4% of SEE examinees were male, and 58.6% were female. The mean total score for Year 2 examinees (401.7) was higher than the mean total score for Year 1 examinees (389.5). The mean SEE score for the Year-3-and-above students was 398.7.

The five-year trend information (last column) shows a similar pattern. Average scores for Year-2 and Year-3-and-above students are virtually equal, and consistently higher than Year 1 students. Also, males consistently attained slightly higher scores on the SEE than females.

Table 22. SEE Candidate Performance by Gender and Program Year, FY 2016

Program Year	Gender	Count	Mean	Standard Deviation	5-Year Trend Mean
Year 1	Female	235	383.5	44.6	382.1
	Male	176	397.5	42.1	397.6
	Total	**411**	**389.5**	**44.1**	**388.3**
Year 2	Female	1,086	397.1	42.1	396.8
	Male	781	408.1	42.6	407.3
	Total	**1,867**	**401.7**	**42.6**	**400.8**
Year 3 and above	Female	411	393.3	43.7	397.2
	Male	264	407.1	44.6	408.3
	Total	**675**	**398.7**	**44.5**	**401.1**
Total	Female	1,732	394.3	43.1	394.3
	Male	1,221	406.3	43.1	405.7
	Total	**2,953**	**399.3**	**43.5**	**398.7**

Table 23 summarizes SEE scores by age group. The average age of Year 1 SEE examinees was 31.0 years. The average age of Year 2 SEE examinees was 31.3 years. The average age of Year 3 SEE examinees was 32.5 years. The mean age of all SEE examinees during the period was 31.5 years, on average just under one year younger than the sample of first-time NCE examinees. The largest age group was composed of examinees under the age of 30 (42.8%). Examinees between the ages of 30 and 35 comprised a slightly smaller subgroup (39.3%). In 2016, examinees 30-35 years of age scored slightly higher on the SEE than examinees in other age groups. In the five-year trending sample, however, examinees under 30 scored highest on average.

Table 23. SEE Candidate Performance by Age and Program Year, FY 2016

Program Year	Age	Count	Mean	Standard Deviation	5-Year Trend Mean
Year 1	Under 30	197	386.9	45.2	389.3
	30-35	155	392.7	43.4	388.5
	36-39	28	385.3	45.9	387.9
	40 and over	31	394.0	38.6	381.2
	Total	**411**	**389.5**	**44.1**	**388.3**
Year 2	Under 30	838	405.0	42.5	403.8
	30-35	723	403.0	40.8	401.1
	36-39	157	388.9	45.3	395.8
	40 and over	149	389.5	45.4	392.4
	Total	**1,867**	**401.7**	**42.6**	**400.8**
Year 3 and above	Under 30	230	398.2	46.1	403.4
	30-35	284	402.3	41.8	401.8
	36-39	79	399.1	51.0	400.7
	40 and over	82	387.5	41.4	393.1
	Total	**675**	**398.7**	**44.5**	**401.1**
Total	Under 30	1,265	400.9	44.0	400.9
	30-35	1,162	401.5	41.5	399.1
	36-39	264	391.6	47.2	395.5
	40 and over	262	389.4	43.3	391.0
	Total	**2,953**	**399.3**	**43.5**	**398.7**

Table 24 displays summaries of SEE scores by clinical background. Overall, the most commonly identified clinical setting was ICU/CCU (36.1%).

When comparing pass rates across clinical background subgroups, readers are advised to refer to the five-year trend columns of Table 24. The averages in these columns are more reliable because they are based on much larger sample sizes.

Table 24. SEE Candidate Performance by Clinical Background and Program Year, FY 2016

Program Year	Clinical Background	Count	Mean	Std Dev	5-Yr Mean	Program Year	Clinical Background	Count	Mean	Std Dev	5-Yr Mean
Year 1	CCU	55	389.9	45.7	392.2	Year 3 & above	CCU	59	413.5	44.4	405.2
	ER	37	386.6	40.3	393.1		ER	32	401.3	35.5	407.4
	ICU/CCU	156	391.4	46.4	386.1		ICU/CCU	241	399.8	45.3	403.0
	MICU	47	395.0	40.5	391.4		MICU	92	394.5	45.2	399.9
	NEURO ICU	22	384.8	41.8	391.6		NEURO ICU	36	385.6	38.3	394.7
	NICU	6	379.0	48.8	362.8		NICU	10	397.6	45.9	400.5
	OR	1	422.0	—	388.6		OR	5	385.4	58.6	395.5
	PACU	2	389.0	33.9	387.5		PACU	15	411.1	52.1	403.0
	PICU	10	401.3	42.7	392.1		PICU	15	383.1	34.0	394.0
	SICU	52	386.6	43.6	389.4		SICU	64	392.5	42.7	399.2
	Trauma ICU	12	382.8	39.6	383.0		Trauma ICU	53	405.8	45.9	403.7
	Other	11	368.9	48.3	389.0		Other	53	394.9	45.9	394.9
	Total	**411**	**389.5**	**44.1**	**388.3**		**Total**	**675**	**398.7**	**44.5**	**401.1**
Year 2	CCU	202	401.4	46.6	402.0	Total	CCU	316	401.6	46.4	400.6
	ER	113	402.0	47.8	399.8		ER	182	398.7	44.6	399.6
	ICU/CCU	670	401.6	41.5	400.3		ICU/CCU	1,067	399.7	43.2	398.0
	MICU	233	404.0	40.0	402.8		MICU	372	400.5	41.5	400.6
	NEURO ICU	95	402.0	38.7	401.3		NEURO ICU	153	395.6	39.6	398.6
	NICU	23	388.8	39.2	392.9		NICU	39	389.6	41.7	389.5
	OR	12	406.4	48.7	398.3		OR	18	401.4	49.6	396.6
	PACU	11	380.1	31.4	398.8		PACU	28	397.3	45.2	397.7
	PICU	79	406.9	47.8	400.9		PICU	104	402.9	46.0	398.2
	SICU	258	399.1	43.9	402.5		SICU	374	396.2	43.8	399.7
	Trauma ICU	96	403.1	40.6	398.0		Trauma ICU	161	402.5	42.5	397.0
	Other	75	402.7	41.0	399.7		Other	139	397.1	44.2	397.0
	Total	**1,867**	**401.7**	**42.6**	**400.8**		**Total**	**2,953**	**399.3**	**43.5**	**398.7**

Table 25 displays summaries of SEE scores by degree to be attained. Please note that the totals within year-in-program in Table 25 will not match previous tables, due to the removal of students who were either dismissed or chose to withdraw from their educational program. Although MSN is the most popular degree, fewer SEE candidates were enrolled in MSN programs in FY 2016 (32.9%) than in FY 2015 (43.5%). The number of SEE examinees in doctoral programs (N = 551, 18.8%) represents an increase over the previous year (N = 363, 11.1%). Score comparisons made among groups represented in these tables should be made with caution because some of the subgroups reflect small sample sizes.

Table 25. SEE Candidate Performance by Graduate Degree and Program Year, FY 2016

Program Year	Degree Upon Completion	Count	Mean	Standard Deviation	5-Year Trend Mean
Year 1	MS Nurse Anesthesia	0	—	—	388.9
	MS Nursing Major	121	392.4	46.4	389.8
	Other Masters	246	387.6	43.1	385.4
	Post Masters Certificate	0	—	—	386.0
	Doctoral	41	392.2	44.8	392.2
	Total	**408**	**389.5**	**44.2**	**388.5**
Year 2	MS Nurse Anesthesia	271	398.9	37.5	401.6
	MS Nursing Major	615	405.5	39.3	402.9
	Other Masters	757	405.1	45.3	402.1
	Post Masters Certificate	3	357.0	39.1	391.4
	Doctoral	209	382.5	43.6	376.9
	Total	**1,855**	**401.7**	**42.7**	**401.0**
Year 3 and above	MS Nurse Anesthesia	135	400.7	46.3	400.7
	MS Nursing Major	230	411.1	43.9	406.9
	Other Masters	6	371.3	53.0	406.1
	Post Masters Certificate	1	340.0	—	379.4
	Doctoral	301	389.2	41.7	391.3
	Total	**673**	**398.8**	**44.6**	**401.3**
Total	MS Nurse Anesthesia	406	399.5	40.6	399.9
	MS Nursing Major	966	405.2	41.7	401.1
	Other Masters	1,009	400.7	45.4	397.3
	Post Masters Certificate	4	352.8	33.1	387.5
	Doctoral	551	386.9	42.7	385.1
	Total	**2,936**	**399.3**	**43.5**	**398.9**

When comparing pass rates across clinical background subgroups, readers are advised to refer to the five-year trend columns of Table 25. The averages in these columns are more reliable because they are based on much larger sample sizes.

Appendix

Table A1. NCE Pass Rate Trends—First-Time Candidates 2008 through August 31, 2016

Reporting Period	Percent Passing
2008* (Graduates 2007 – 2008)	89.9
2009 (Graduates after 2008)	87.7
2010	88.9
2011	89.1
FY 2012	88.5
FY 2013	88.4
FY 2014**	87.8
FY 2015	85.0
FY2016	84.5

*Passing standard increased in August 2008

**Passing standard increased in January 2014

Table A2. Descriptive Statistics for NCE Scores and Domain-Level Information—First-Time Candidates FY 2016

	Mean	Standard Deviation
Total Score	491.7	43.4
Basic Science	500.8	63.6
Equipment, Instrumentation, and Technology	501.8	73.2
Basic Principles of Anesthesia	498.5	56.2
Advanced Principles of Anesthesia	486.8	54.4

Table A3. Descriptive Statistics for SEE Scores and Domain-Level Information, FY 2016

	1st Year in Program		2nd Year in Program		3rd Year in Program		All	
	Avg	SD	Avg	SD	Avg	SD	Avg	SD
Total	389.5	44.1	401.7	42.6	398.7	44.5	399.3	43.5
Professional and Legal Aspects	387.1	66.1	395.3	63.8	399.4	66.0	395.1	64.7
Anatomy, Physiology, Pathophysiology	400.2	54.1	407.8	56.9	404.0	57.4	405.9	56.7
Pharmacology	398.0	61.3	409.3	57.5	402.8	59.2	406.3	58.5
Basic Principles	403.9	66.7	410.2	64.5	407.2	61.6	408.6	64.2
Advanced Principles	383.4	54.0	408.1	58.8	405.6	60.9	404.1	59.2