A National Role Delineation Study of the Emergency Nurse
Executive Summary

Introduction

The purpose of this study was to identify the responsibilities of Emergency Nurses as the first step in the development of a job-related certification examination. The Board of Certification for Emergency Nursing (BCEN®) requested the services of Applied Measurement Professionals, Inc. (AMP) to design and conduct a study that would provide the support necessary to develop specifications upon which content valid Certified Emergency Nurse (CEN®) certification examination could be built.

The title of this study includes the use of the term role delineation study. Other equally appropriate terms could be used to describe this study, for example, job analysis or practice analysis. While role delineation is the term primarily used in this report, these other terms should be considered to be interchangeable in relation to this study.

The BCEN appointed a Role Delineation Study Advisory Committee (AC) to conduct the activities necessary to identify responsibilities of Emergency Nurses and develop Examination Specifications. The composition of the ten-member AC was representative of the Emergency Nurse profession in all relevant respects, for example: geographic, professional area, level of responsibility, educational background, gender, and work setting. Without the AC's effort and expertise across the various specialty areas, this project would not have been accomplished.

Methodology

The AC considered various resource materials that could be useful in gaining an understanding of the responsibilities of Emergency Nurses. The primary resource was the previous BCEN job analysis study for Emergency Nurses. Other materials assembled prior to the first meeting of the AC included orientation materials, a draft of disease states, tasks, rating scales, and demographic questions for role delineation study survey, and a timeline for conducting the study. Background information was provided regarding both the role delineation process (and its relationship to the examination development process) and BCEN's role in the continuing development of the content validity of a certification examination. Seven major tasks were initiated during the AC meeting held in October 2014. These steps included:

1. Defining the target practitioner
2. Developing a sampling plan
3. Identifying disease states and tasks for the survey instrument
4. Identifying major domains
5. Determining the rating scales
6. Determining the relevant demographic variables of interest
7. Integrating demographics, rating scales, disease states, and tasks into a survey instrument

A summary of each activity follows.

1. *Defining the target practitioner*

For the purposes of this study, BCEN and the AC adopted the following target practitioner definition of an Emergency Nurse:

> *An emergency nurse is a registered nurse who possesses advanced critical thinking and highly developed skills. The emergency nurse is able to apply these skills autonomously, demonstrating the ability to assess, analyze, intervene, and evaluate ill or injured patients in the emergency department. The role of the emergency nurse also includes communication, education, promotion of safety, and injury prevention.*

2. *Developing a sampling plan*

The AC considered various methods of identifying individuals who consider themselves to be Emergency Nurses, or who would be knowledgeable about the duties of Emergency Nurses. It was determined that invitation e-mails containing a link to the online role delineation study survey would be distributed to Emergency Nurses in the BCEN membership database, including current CEN credential holders. A total of 10,000 invitations were sent.

3. *Identifying disease states and tasks for the survey instrument*

After discussion, the AC decided that the test specifications would be disease state-based, and that the primary tasks underlying all content would be the steps of the nursing process: *assessment*, *planning*, *intervention*, and *evaluation*. Therefore, a linkage between the areas of knowledge (disease states) would be established by the development of the survey in this manner.

A committee member kept a job log to ensure the potentially testable disease states seen in the practice are covered in the draft list. The draft list was thoroughly discussed during the meeting held in October 2014. Disease states and tasks representing individual job responsibilities were modified, added, and removed. All disease states and tasks were verified as being appropriately linked to the associated domain. After the review of the draft list, the AC authorized development of the final survey. The final survey included 208 disease states and 58 tasks.

4. *Identifying major domains*

The AC identified 12 major domains of knowledge, under which disease states were categorized into subcategories. The AC unanimously agreed on the linkage of each disease state to the respective domain. The domains were as follows:

1. Cardiovascular Emergencies
2. Gastrointestinal Emergencies
3. Genitourinary, Gynecology, and Obstetrical Emergencies
4. Maxillofacial and Ocular Emergencies
5. Neurological Emergencies
6. Orthopedic and Wound Emergencies
7. Psychosocial Emergencies
8. Respiratory Emergencies
9. Environment and Toxicology Emergencies
10. Shock
11. Medical Emergencies and Communicable Diseases
12. Professional Issues

5. Determining the rating scales

The AC discussed the advantages and disadvantages of various rating scales that could be used in responding to the disease states and tasks. AMP suggested the use of a single significance scale for disease states. This single scale is intended to solicit judgments that combine the importance of a disease state with the frequency with which it is addressed in practice, after first considering the extent to which it is necessary to the performance in practice. The significance scale adopted by the AC is shown below.

How significant to your practice is the ability to assess, analyze, intervene, and evaluate patients with the following diseases?

0 = **Not necessary for my job** (I would never need to be able to address this disease)
1 = **Minimally significant** (not an important part of my practice)
2 = **Moderately significant** (somewhat important)
3 = **Significant** (an important part of my practice)
4 = **Very significant** (quite important)
5 = **Extremely significant** (highly critical to my practice)

For the list of tasks, the AC decided to adopt the same rating scale with different wording to the question as shown below. This scale is intended to solicit judgments to determine whether the listed tasks are expected for Emergency Nurses to perform within the practice. Further instructions for respondents for use of these scales are included in the survey.

How significant is this task to your emergency nursing practice?

0 = **Not necessary for my job** (I have never performed this task)
1 = **Minimally significant** (not an important part of my practice)
2 = **Moderately significant** (somewhat important)
3 = **Significant** (an important part of my practice)
4 = **Very significant** (quite important)
5 = **Extremely significant** (highly critical to my practice)

6. Determining the relevant demographic variables of interest

The AC identified 22 relevant and important demographic survey variables. Since this was a national study, it was important to identify the respondents' geographic regions of employment. Other demographic questions were written to assess characteristics of the representativeness of the respondents, including: nursing degree, certifications, emergency nursing educational programs completed, years of experience, characteristics of practice facility, primary position, work schedule, gender, and racial and ethnic background.

7. Integrating demographics, rating scales, disease states, and tasks into a survey instrument

After the first meeting, all components of the survey (demographics, rating scales, disease states, and tasks) were combined and designed into a draft survey instrument. As a pilot test, the draft was distributed to the AC and other individual content experts via an e-mail message, which included a link to the pilot survey. Following a review of the comments, the final survey was prepared and distributed via an e-mail invitation.

Results

The survey was accessible via the Internet through the response deadline of February 20, 2015. Of the 10,000 e-mail invitations distributed (among which 720 were undeliverable and 20 opted out the study), a total of 1,669 respondents accessed the survey, resulting in a raw response rate of 18%. After reducing the sample size for duplicated responses (n=20) and participants who completed less than 75% of the survey (n=282), a total of 1,367 responses were considered to be valid responses, for a corrected response rate of 15%.

Demographic Information

Summaries of the percentage of respondents indicating each response to the demographic questions are shown in figures and tables that follow. Based on discussion of the demographic responses with the AC, the demographic data were as expected, and judged to be representative of the profession. In addition to ensuring that the respondent group was representative, it was important to evaluate whether responses were received in appropriate numbers from relevant subgroups. The AC determined that sufficient responses were received from relevant subgroups for subsequent analysis.

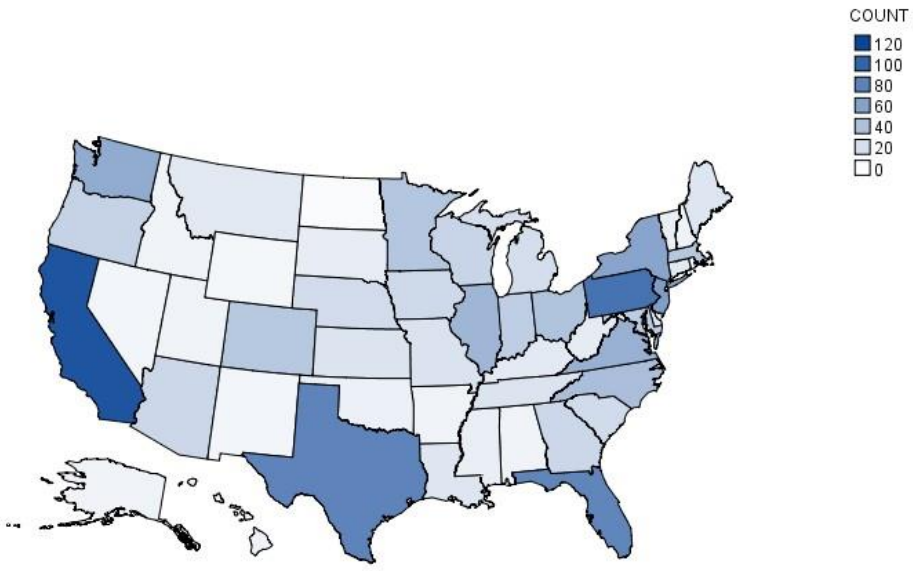

Figure 1. Location of employment in the United States

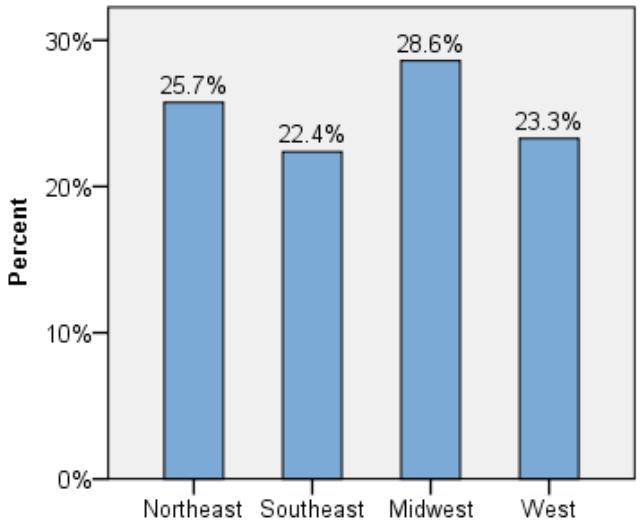

Figure 2. Region (n=1,336)

- Northeast: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT
- Southeast: AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, TX, WV
- Midwest: IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, OK, SD, WI
- West: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

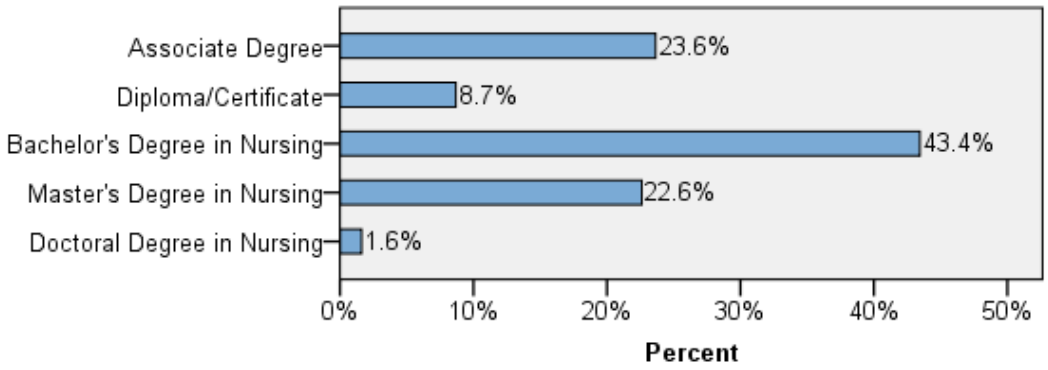

Figure 3. Highest degree in nursing attained

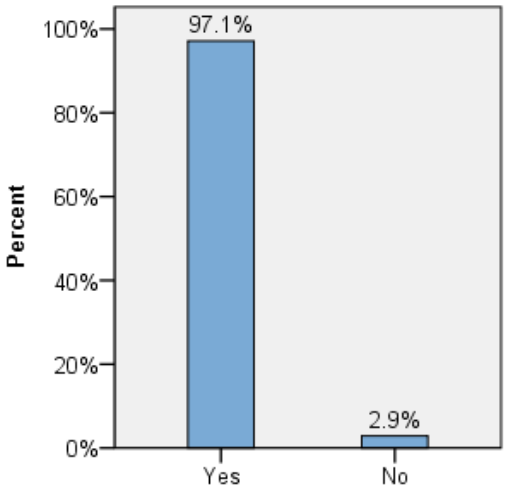

Figure 4. CEN Credential Holder

Table 1. Nursing Specialty Certifications Held other than CEN (Select all that apply.)

	N	% of Cases*
CPEN	121	10.1
CCRN	111	9.3
SANE	73	6.1
CFRN	46	3.8
CTRN	12	1.0
Other	223	18.6
None	704	58.7
Total	1,290	107.5

**Note.* Because respondents were allowed to choose more than one answer, percentages will not sum to 100%.

Table 2. Emergency Nursing Educational Programs Completed in the Last 4 Years (Select all that apply.)

	N	% of Cases*
Advanced Cardiac Life Support (ACLS)	1,306	96.2
Pediatric Advanced Life Support (PALS)	1,038	76.5
Trauma Nursing Core Course (TNCC)	975	71.8
Emergency Nursing Pediatric Course (ENPC)	585	43.1
Advanced Trauma Course for Nurses (ATCN)	169	12.5
Sexual Assault Nurse Examiner (SANE)	79	5.8
Geriatric Emergency Nursing Education (GENE)	52	3.8
Transport Nurse Advanced Trauma Course (TNATC)	30	2.2
None	28	2.1
Total	4,262	314.1

**Note.* Because respondents were allowed to choose more than one answer, percentages will not sum to 100%.

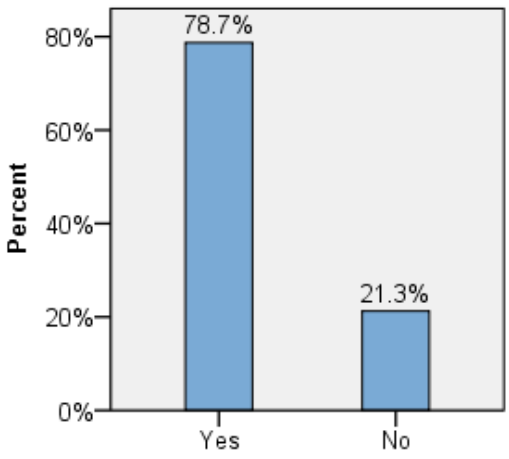

Figure 5. ENA Member

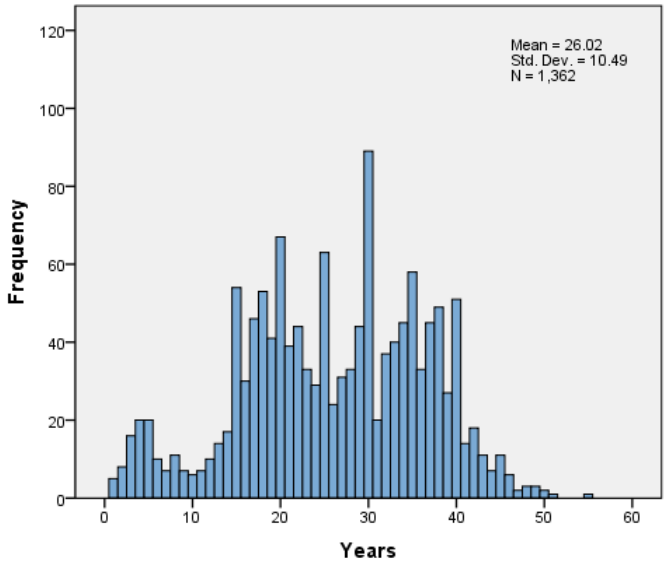

Figure 6. Years of Experience as a Registered Nurse

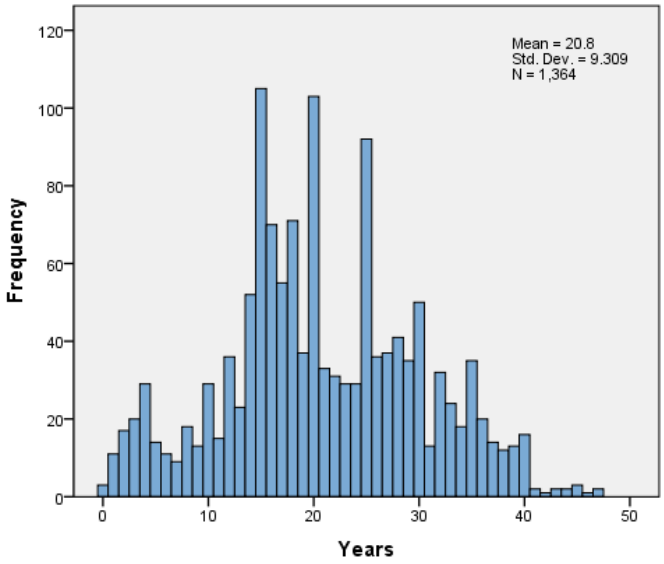

Figure 7. Years of Experience as an Emergency Nurse

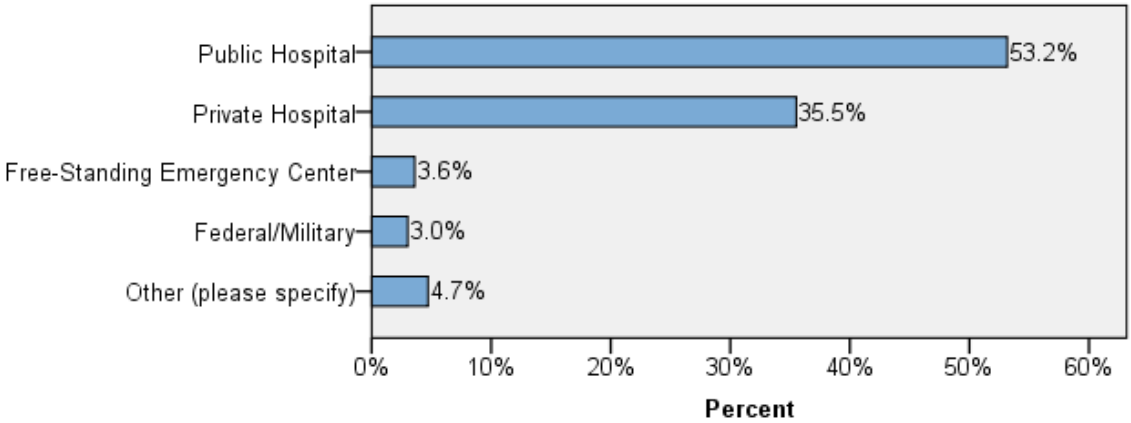

Figure 8. Practice Facility

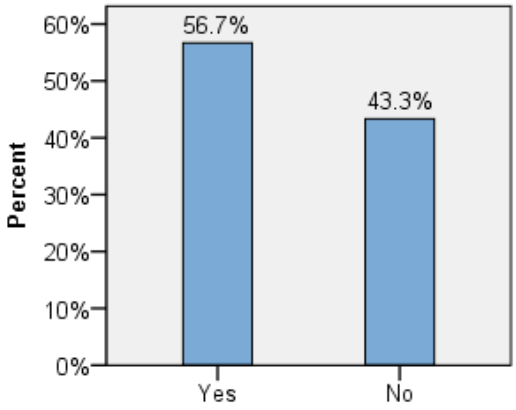

Figure 9. Critical Access Hospital

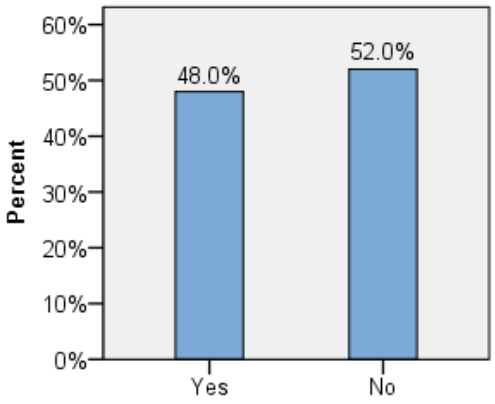

Figure 10. Physician Residents Provide Care in ED as Formal Educational Requirements

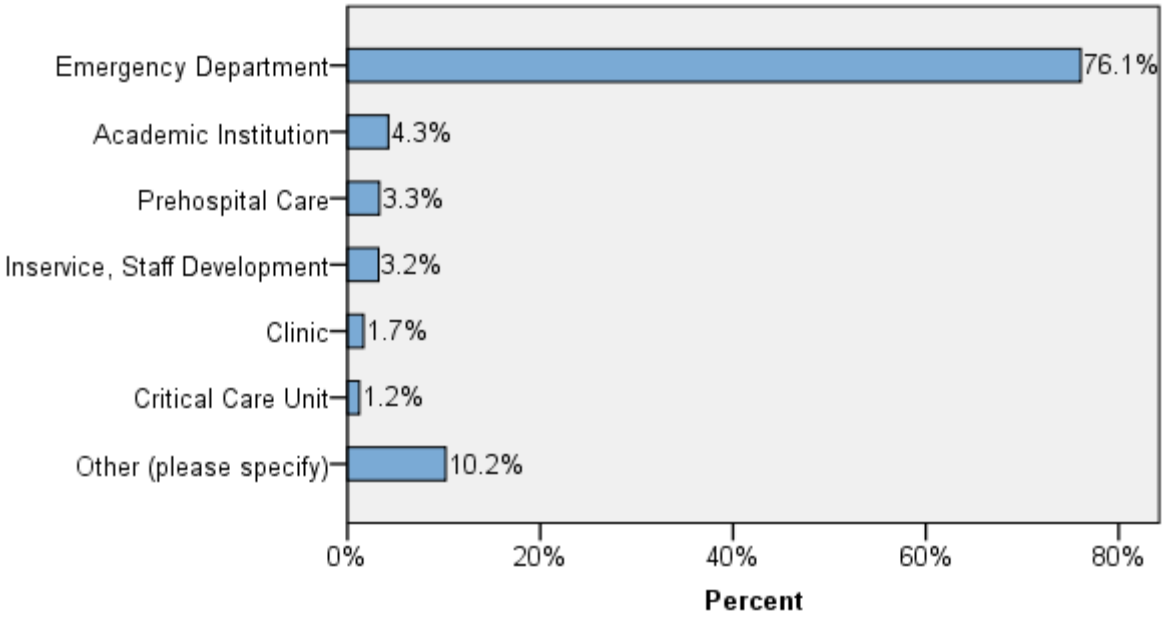

Figure 11. Primary Setting of the Facility

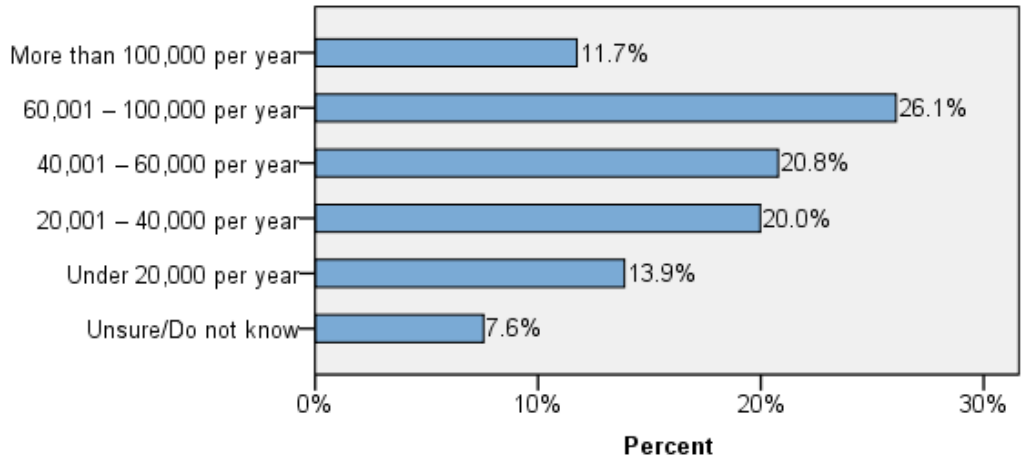

Figure 12. Annual Patient Census of the Facility

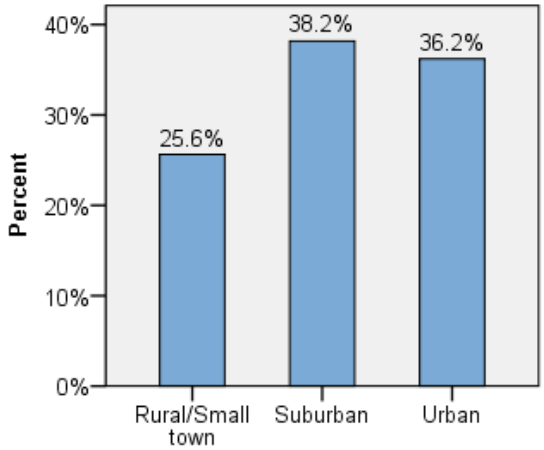

Figure 13. Type of Community

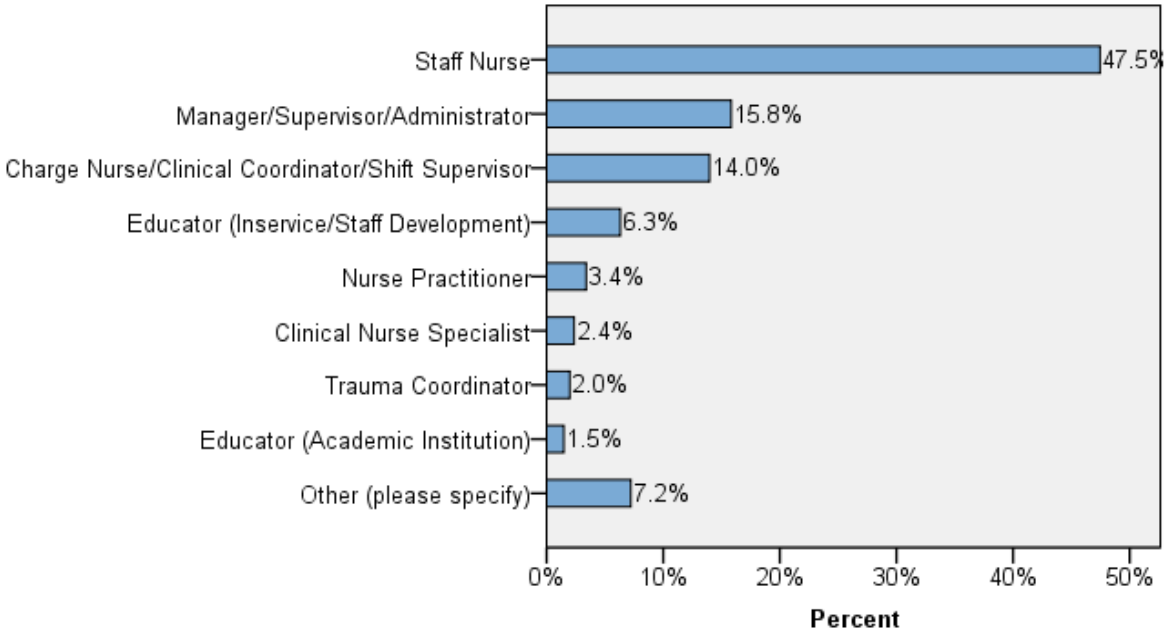

Figure 14. Primary Nursing Position

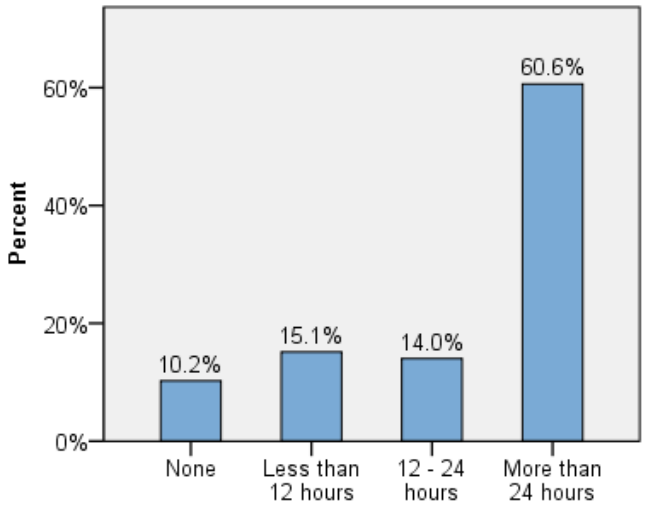

Figure 15. Hours per Week Working in Clinical Emergency Nursing Practice

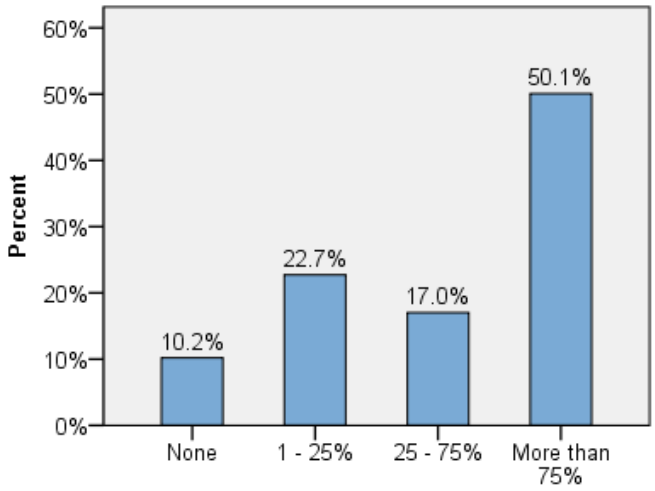

Figure 16. Percentage of Work Time spent in Delivering Emergency Patient Care

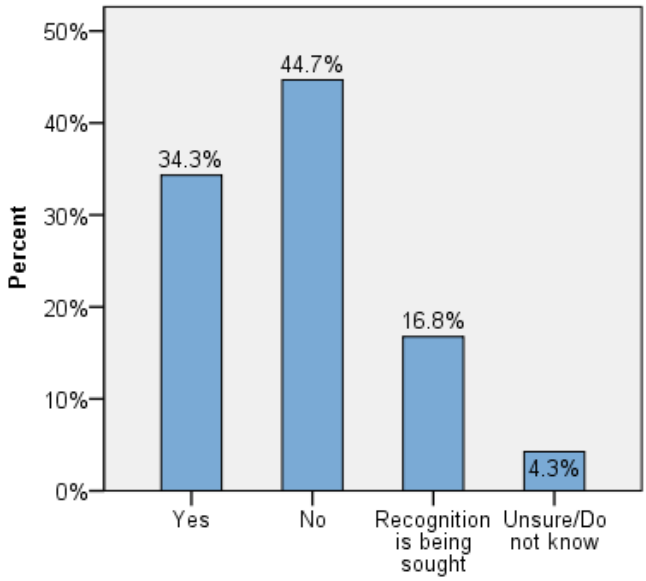

Figure 17. Facility with Magnet or Pathway to Excellence Recognition

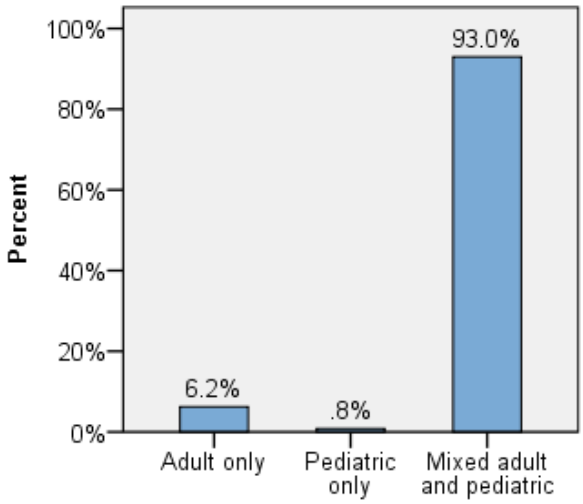

Figure 18. Patient Population

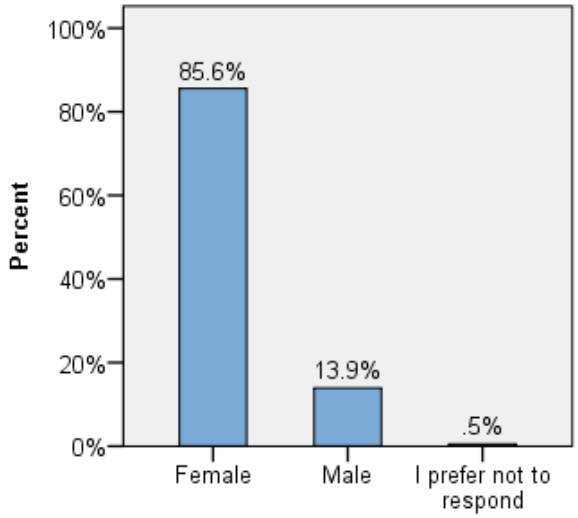

Figure 19. Gender

Table 3. Racial/Ethnic Background

	Non-Hispanic		Hispanic	
	N	% of Cases	N	% of Cases
America Indian or Alaska Native	21	1.6	5	.4
Asian	39	2.9	1	.1
Black or African American	25	1.9	1	.1
Native Hawaiian or Other Pacific Islander	13	1.0	1	.1
White	1,152	85.8	117	8.7
Total	1,250	93.2	125	9.4

Adequacy of the Instrument

More than 98% of those responding to the question shown in *Figure 20*, which appeared at the end of the survey, felt that the role delineation study survey at least adequately addressed the responsibilities of Emergency Nurses. Another aspect of the adequacy of the instrument relates to its reliability.

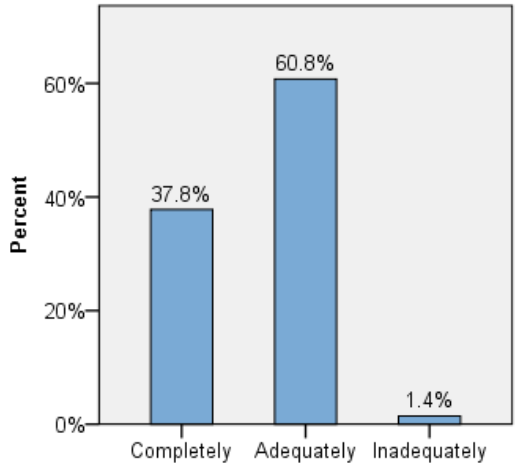

Figure 20. How well do you feel this document covered the important activities of emergency nursing practice?

Reliability estimates of both the disease state/task ratings and the raters (or respondents) are calculated. Disease state/task reliability estimates show to what extent each scale "hangs together." A high disease state/task reliability value may indicate that the scale represents a consistent collection of disease states or tasks. Rater reliability estimates are more important and indicate the degree to which raters agree on the significance of an item. Overall, the calculated reliability estimates were around 0.9 or higher.

Disease State and Task Ratings

Descriptive data for each of the 208 disease states were reviewed by the AC. While relative comparisons of the data are appropriate (e.g., when comparing disease states, the disease state with the higher mean rating could be said to be more significant to practice), it is important to consider the absolute meaning of the ratings. The reader should bear in mind that the response options (also known as anchors) for the significance scale for disease states were: 0) Not necessary for my job, 1) Minimally significant, 2) Moderately significant, 3) Significant, 4) Very significant, and 5) Extremely significant. The mean of the ratings is based on all ratings of significance and does not include the zero (i.e., Not necessary for my job) ratings. Therefore, the mean significance ratings represent the level of significance judged by the respondents who believed that the disease state was necessary to practice.

The disease state mean significance ratings ranged from 3.22 (for #173: XI. Medical Emergencies and Communicable Diseases - A. Medical Emergencies - 9. Reye's syndrome) to 4.75 (for #3: I. Cardiovascular Emergencies - C. Cardiopulmonary arrest). The mean rating of significance, calculated across all 208 disease states, was 3.98, with a standard deviation of 0.35. A grouped frequency distribution of the overall mean ratings for the 208 disease states is shown in Table 4.

Table 4. Distribution of Mean Disease State Ratings

	Disease States	
Mean Rating	**N**	**%**
Greater than 4.49	16	7.7
3.50-4.49	171	82.2
2.50-3.49	21	10.1
1.50-2.49	0	0.0
Less than 1.49	0	0.0
Total	208	100.0

Descriptive data for each of the 58 tasks were also reviewed by the AC. The response options for the task significance scale are the same as the options used for rating disease states. The task mean significance ratings ranged from 2.76 (for #17: B. Gastrointestinal Tasks - 2. Assist with performing diagnostic peritoneal lavage) to 4.71 (for #38: G. Respiratory Tasks - 2. Assist with rapid sequence intubation). The mean rating of significance, calculated across all 58 tasks, was 3.70, with a standard deviation of 0.47. A grouped frequency distribution of the overall mean ratings for the 58 tasks is shown in Table 5.

Table 5. Distribution of Mean Task Ratings

	Tasks	
Mean Rating	**N**	**%**
Greater than 4.49	3	5.2
3.50-4.49	33	56.9
2.50-3.49	22	37.9
1.50-2.49	0	0.0
Less than 1.49	0	0.0
Total	58	100.0

Ratings of Various Demographic Groups

The demographic questions were included in the survey to provide descriptive information about the respondents. For some demographic questions, however, it is important to ensure that individuals from different subgroups view the knowledge (disease states) required of Emergency Nurses similarly, and that the ratings exceed a level of significance sufficient to warrant inclusion on a national examination. Means, standard deviations, and numbers of respondents providing ratings from each subgroup for the 208 disease states were reviewed by the AC.

Examination Specifications

In developing Examination Specifications, committee judgment must be used in interpreting the data gathered through the role delineation study survey. For purposes of this report, the Examination Specifications will be defined as the confidential document that is used to guide the examination development process, and that includes sufficient detail to ensure the development of comparable examination forms. The Detailed Content Outline (DCO) can be defined as a subset of the Examination Specifications; it is a document that includes a detailed listing of content available in outline form for candidates and item writers. Every examination item must

be linked to the DCO as the first step in meeting the Examination Specifications during the examination development process.

Of particular importance to a national certification examination program is that the Examination Specifications must appropriately reflect the responsibilities of all groups who will participate in the certification program. Therefore, it is important to ensure that neither the Examination Specifications nor the resulting examinations include disease states or tasks that are not considered to be important responsibilities of the individuals for whom the examination is intended.

Decision rules were discussed and adopted by the AC to identify disease states and tasks that would be eliminated from the DCO; therefore, not eligible for assessment. Applying these decision rules provides objectivity in ensuring that the resulting examination reflects the responsibilities of Emergency Nurses, as judged by a demographically representative group of Emergency Nurses. The first decision rule helped ensure the DCO would only reflect disease states and tasks that were a part of practice; any that received a high percentage of respondents providing a “0” rating (Not necessary for my job) were eliminated. The second decision rule established a threshold for the mean significance rating for the overall respondent group, ensuring that what remained on the DCO was clearly significant to practice. Finally, ten different decision rules were adopted based on subgroup analyses, to ensure that the remaining disease states and tasks were significant to practice throughout the United States, for different levels of education preparation and years of experience, as well as a variety of different characteristics related to the respondents’ work setting and role, based on their demographic responses.

In addition to applying decision rules, the AC reviewed the comments offered by the survey respondents, in particular, those comments that suggested that additional disease states would be appropriate to practice. Following discussion, several disease states were combined; one topic (i.e., cultural considerations (e.g., interpretive services, privacy, decision making)) was added under “Professional Issues”; and disease states under “Shock” category were redistributed throughout the outline to more appropriately reflect practice. It was decided that no additional disease states were needed to appropriately reflect practice or would be needed to contract a certification examination. In summary, a total of 198 disease states were eligible for assessment on CEN certification examination.

After applying decision rules to disease states, the AC examined the list of 58 tasks. Using the percent of respondents who provided a do-not-perform response (i.e., “Not necessary for my job”), the AC decided to identify 4 scales. Tasks were either identified as *Do not use*, *Use with extreme caution*, *Use with caution*, or *OK to use*. This scale is designed to be used by item writers when writing questions for the examination and by the Examination Construction and Review Committee (ECRC) when approving examination forms. This reference will inform them of which tasks are acceptable to test on and which are not. This added step allows for even more evidence of content validity of the final measure.

When developing the survey, the AC determined that each disease state was clearly linked to the associated major knowledge area. During the meeting in March 2015, domains were combined by the AC into larger major domains, but retained the original category headings as minor domains and the AC reconfirmed all linkages. Item writers will be instructed to classify items according to a specific disease state, and to ensure that the item is associated with the major and minor area. When approving items, the ECRC will similarly confirm that linkage.

Development of Final Detailed Content Outline and Examination Specifications

The AC determined that the Examination Specifications would more effectively reflect emergency nursing practice if based on disease states rather than tasks, and that the primary tasks underlying all content should be the four steps of the nursing process: *assessment*, *planning*, *intervention*, and *evaluation*. Therefore, the survey was designed with this linkage between the areas of knowledge (disease states) and tasks in mind. After reviewing the survey results, the AC determined that a second dimension would be appropriate as a part of the Examination Specifications. The linkage between the knowledge required for practice and the tasks used in practice was verified and assured by the AC. Cognitive level requirements were also discussed as a possible second dimension. For example, a determination could be made as to whether each item would require *recall* of facts, *application* of information, or *analysis* of a situation.

The AC determined that topics under "Professional Issues" would be classified by cognitive level; whereas, rest of the categories would be classified as requiring *assessment*, *analysis*, *intervention*, or *evaluation* on the part of the candidate. It was noted in the discussion that frequently the process of *assessment* requires *recall*, the process of *analysis* or *intervention* often requires *application* of knowledge, and the highest cognitive process (*analysis*) is frequently inherent in the fourth step of the nursing process (*evaluation*).

The AC determined that the content on the DCO could be appropriately assessed by way of a total of 150 multiple-choice examination items to ensure appropriate content coverage. Item writers will be advised that any knowledge area underlying a disease state may be appropriate for assessment, and that the item should be directly related to the disease state. After agreeing on the number of items on the examinations, the AC discussed how these items should be distributed across the major areas. Based on the significance of the disease state ratings, the breadth of content within each major and minor knowledge domain, and suggestions of survey respondents, the AC expressed independent judgments about their recommendation for the distribution of items in the major content areas. Using the mean of their judgments as a starting point, the AC reached unanimous agreement regarding the number of items in each major area as shown in the DCO on the following pages. All forms of the CEN certification examinations will match the DCO.

The AC also specified the number of items needed for certain disease states, considering their high significance ratings received from the survey respondents. A comparison of significance ratings received for the 14 disease states with emphasis (i.e., specified number of items) and all disease states is shown in Table 6.

Table 6. Significance Comparison of 14 Emphasized and All Disease States

	Mean % of 0s	Mean Rating
14 disease states with emphasis	1.92	4.39
All disease states	6.54	3.98

	Certified Emergency Nurse Detailed Content Outline **Effective July 6, 2016**	Total # ITEMS
1.	**Cardiovascular Emergencies**	**20**
A.	Acute coronary syndrome	
B.	Aneurysm/dissection	
C.	Cardiopulmonary arrest	
D.	Dysrhythmias	
E.	Endocarditis	
F.	Heart failure	
G.	Hypertension	
H.	Pericardial tamponade	
I.	Pericarditis	
J.	Peripheral vascular disease (e.g., arterial, venous)	
K.	Thromboembolic disease (e.g., deep vein thrombosis [DVT])	
L.	Trauma	
M.	Shock (cardiogenic and obstructive)	
2.	**Respiratory Emergencies**	**16**
A.	Aspiration	
B.	Asthma	
C.	Chronic obstructive pulmonary disease (COPD)	
D.	Infections	
E.	Inhalation injuries	
F.	Obstruction	
G.	Pleural effusion	
H.	Pneumothorax	
I.	Pulmonary edema, noncardiac	
J.	Pulmonary embolus	
K.	Respiratory distress syndrome	
L.	Trauma	
3.	**Neurological Emergencies**	**16**
A.	Alzheimer's disease/dementia	
B.	Chronic neurological disorders (e.g., multiple sclerosis, myasthenia gravis)	
C.	Guillain-Barré syndrome	
D.	Headache (e.g., temporal arteritis, migraine)	
E.	Increased intracranial pressure (ICP)	
F.	Meningitis	
G.	Seizure disorders	
H.	Shunt dysfunctions	
I.	Spinal cord injuries, including neurogenic shock	
J.	Stroke (ischemic or hemorrhagic)	
K.	Transient ischemic attack (TIA)	
L.	Trauma	

Certified Emergency Nurse Detailed Content Outline	Total # ITEMS
4. Gastrointestinal, Genitourinary, Gynecology, and Obstetrical Emergencies	**21**
A. Gastrointestinal	
1. Acute abdomen (e.g., peritonitis, appendicitis)	
2. Bleeding	
3. Cholecystitis	
4. Cirrhosis	
5. Diverticulitis	
6. Esophageal varices	
7. Esophagitis	
8. Foreign bodies	
9. Gastritis	
10. Gastroenteritis	
11. Hepatitis	
12. Hernia	
13. Inflammatory bowel disease	
14. Intussusception	
15. Obstructions	
16. Pancreatitis	
17. Trauma	
18. Ulcers	
B. Genitourinary	
1. Foreign bodies	
2. Infection (e.g., urinary tract infection, pyelonephritis, epididymitis, orchiitis, STDs)	
3. Priapism	
4. Renal calculi	
5. Testicular torsion	
6. Trauma	
7. Urinary retention	
C. Gynecology	
1. Bleeding/dysfunction (vaginal)	
2. Foreign bodies	
3. Hemorrhage	
4. Infection (e.g., discharge, pelvic inflammatory disease, STDs)	
5. Ovarian cyst	
6. Sexual assault/battery	
7. Trauma	
D. Obstetrical	
1. Abruptio placenta	
2. Ectopic pregnancy	
3. Emergent delivery	
4. Hemorrhage (e.g., postpartum bleeding)	
5. Hyperemesis gravidarum	

Certified Emergency Nurse Detailed Content Outline	Total # ITEMS
6. Neonatal resuscitation	
7. Placenta previa	
8. Postpartum infection	
9. Preeclampsia, eclampsia, HELLP syndrome	
10. Preterm labor	
11. Threatened/spontaneous abortion	
12. Trauma	
5. Psychosocial and Medical Emergencies	**25**
A. Psychosocial	
1. Abuse and neglect	
2. Aggressive/violent behavior	
3. Anxiety/panic	
4. Bipolar disorder	
5. Depression	
6. Homicidal ideation	
7. Psychosis	
8. Situational crisis (e.g., job loss, relationship issues, unexpected death)	
9. Suicidal ideation	
B. Medical	
1. Allergic reactions and anaphylaxis	
2. Blood dyscrasias	
a. Hemophilia	
b. Other coagulopathies (e.g., anticoagulant medications, thrombocytopenia)	
c. Leukemia	
d. Sickle cell crisis	
3. Disseminated intravascular coagulation (DIC)	
4. Electrolyte/fluid imbalance	
5. Endocrine conditions:	
a. Adrenal	
b. Glucose related conditions	
c. Thyroid	
6. Fever	
7. Immunocompromise (e.g., HIV/AIDS, patients receiving chemotherapy)	
8. Renal failure	
9. Sepsis and septic shock	

Certified Emergency Nurse Detailed Content Outline	Total # ITEMS
6. Maxillofacial, Ocular, Orthopedic and Wound Emergencies	**21**
A. Maxillofacial	
1. Abscess (i.e., peritonsillar)	
2. Dental conditions	
3. Epistaxis	
4. Facial nerve disorders (e.g., Bell's palsy, trigeminal neuralgia)	
5. Foreign bodies	
6. Infections (e.g., Ludwig's angina, otitis, sinusitis, mastoiditis)	
7. Acute vestibular dysfunction (e.g., labrinthitis, Ménière's disease)	
8. Ruptured tympanic membrane	
9. Temporomandibular joint (TMJ) dislocation	
10. Trauma	
B. Ocular	
1. Abrasions	
2. Burns	
3. Foreign bodies	
4. Glaucoma	
5. Infections (e.g., conjunctivitis, iritis)	
6. Retinal artery occlusion	
7. Retinal detachment	
8. Trauma (e.g., hyphema, laceration, globe rupture)	
9. Ulcerations/keratitis	
C. Orthopedic	
1. Amputation	
2. Compartment syndrome	
3. Contusions	
4. Costochondritis	
5. Foreign bodies	
6. Fractures/dislocations	
7. Inflammatory conditions	
8. Joint effusion	
9. Low back pain	
10. Osteomyelitis	
11. Strains/sprains	
12. Trauma (e.g., Achilles tendon rupture, blast injuries)	
D. Wound	
1. Abrasions	
2. Avulsions	
3. Foreign bodies	
4. Infections	
5. Injection injuries (e.g., grease gun, paint gun)	
6. Lacerations	
7. Missile injuries (e.g., guns, nail guns)	

Certified Emergency Nurse Detailed Content Outline	Total # ITEMS
8. Pressure ulcers	
9. Puncture wounds	
10. Trauma (i.e., including degloving injuries)	
7. Environment and Toxicology Emergencies, and Communicable Diseases	**15**
A. Environment	
1. Burns	
2. Chemical exposure (e.g., organophosphates, cleaning agents)	
3. Electrical injuries	
4. Envenomation emergencies (e.g., spiders, snakes, aquatic organisms)	
5. Food poisoning	
6. Parasite and fungal infestations (e.g., giardia, ringworm, scabies)	
7. Radiation exposure	
8. Submersion injury	
9. Temperature-related emergencies (e.g., heat, cold, and systemic)	
10. Vector borne illnesses:	
a. Rabies	
b. Tick-borne illness (e.g., Lyme disease, Rocky Mountain spotted fever)	
B. Toxicology	
1. Acids and alkalis	
2. Carbon monoxide	
3. Cyanide	
4. Drug interactions (including alternative therapies)	
5. Overdose and ingestions	
6. Substance abuse	
7. Withdrawal syndrome	
C. Communicable Diseases	
1. *C. Difficile*	
2. Childhood diseases (e.g., measles, mumps, pertussis, chicken pox, diphtheria)	
3. Herpes zoster	
4. Mononucleosis	
5. Multi-drug resistant organisms (e.g., MRSA, VRE)	
6. Tuberculosis	
Total	**134**

Certified Emergency Nurse Detailed Content Outline	Total # ITEMS
8. Professional Issues	**16**
A. Nurse	
1. Critical Incident Stress Management	
2. Ethical dilemmas	
3. Evidence-based practice	
4. Lifelong learning	
5. Research	
B. Patient	
1. Discharge planning	
2. End of life issues:	
a. Organ and tissue donation	
b. Advance directives	
c. Family presence	
d. Withholding, withdrawing, and palliative care	
3. Forensic evidence collection	
4. Pain management and procedural sedation	
5. Patient safety	
6. Patient satisfaction	
7. Transfer and stabilization	
8. Transitions of care	
a. external handoffs	
b. internal handoffs	
c. patient boarding	
d. shift reporting	
9. cultural considerations (e.g., interpretive services, privacy, decision making)	
C. System	
1. Delegation of tasks to assistive personnel	
2. Disaster management (i.e., preparedness, mitigation, response, and recovery)	
3. Federal regulations (e.g., HIPAA, EMTALA)	
4. Patient consent for treatment	
Performance improvement	
6. Risk management	
. Symptom surveillance	
a. recognizing symptom clusters	
b. mandatory reporting of diseases	
D. Triage	
Total	**150**

NOTE: The 134 clinical items in categories 1 through 7 will be classified according to the nursing process as follows: 32 Assessment, 34 Analysis, 43 Intervention, and 25 Evaluation. The 16 professional issues items in category 8 will be classified by cognitive level: 3 recall, 10 application, and 3 analysis. In addition to the 150 items used to compute candidates' scores, 25 unscored pretest items will be administered.