National Asthma Educator Certification Board (NAECB) Update

Developed by the National Asthma Educator Certification Board of Directors

National Asthma Educator Certification Board

Mission Statement
To promote optimal asthma management and quality of life among individuals with asthma, their families and communities, by advancing excellence in asthma education through the Certified Asthma Educator process.
The Certified Asthma Educator

- Conducts assessments to identify strengths, resources, psychological factors, the social & economic impact of asthma, educational needs & barriers to healthcare & self-management.
- Works with individuals, families, health care professionals to develop, implement, monitor & revise customized asthma action plans for self-management.
- Monitors asthma education program outcomes & recommends modifications to improve quality & effectiveness.
- Serves as a community resource by providing asthma information as well as healthcare resources.

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Who Is the Certified Asthma Educator?

An expert in teaching, educating, counseling who:

- Has a comprehensive, current knowledge of asthma pathophysiology & management including:
  - Developmental theories
  - Impact of chronic illness
  - Cultural dimensions
  - Principles of teaching-learning
- Is knowledgeable about objective & subjective measures used to diagnose & assess asthma control
- Capably instructs about the optimal use of medications & delivery devices, explaining technical concepts in understandable language

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Why is Certification Important?

- Role of the Asthma Educator has increased over time as research has shown the importance of a well-educated, informed patient in the management of this chronic disease.
- Need for standardize process to certify Asthma Educators/Coordinators/Counselors and to evaluate their effectiveness in disease management.
- Certification assures that information obtained from a Certified Asthma Educator (AE-C) is based on scientifically sound concepts of disease management.

About the National Asthma Educator Certification Board (NAECB)

- Voluntary health certifying board established in 2001.
- Purpose:
  - To prepare examinations to test the qualifications of candidates for certification as asthma educators.
  - To conduct and evaluate these examinations.
Examination Eligibility Requirements

The following currently U.S. licensed or credentialed health care professionals may be admitted to the examination:

- Physicians (MD, DO)
- Physician Assistants (PA-C)
- Nurses (RN, LPN, NP)
- Respiratory Therapists (RRT, CRT)
- Pulmonary Function Technologists (CPFT, RPFT)
- Pharmacists (RPh)
- Social Workers (CSW)
- Health Educators (CHES)
- Physical Therapists (PT)
- Occupational Therapists (OT)

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Examination Eligibility Requirements

One of the previous credentials

OR

Individuals providing direct patient asthma education, counseling, coordination services with a minimum of 1000 hours experience in above services.

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Board of Directors Composition

- Nine to 17 voting members
- Represent multiple health care professionals in asthma education, counseling & coordination with at least one from each of these disciplines:
  - Behavioral scientist
  - Health educator
  - Nurse
  - Pharmacist
  - Physician
  - Respiratory therapist
- Also, a Public Member & an At-Large Member
- Representation by competency & discipline, not by organization; with majority having AE-C

National Asthma Educator Certification Board

Executive Committee – 2018

Clifton Dennis, RRT, AE-C        Chair
Tim Hudd, PharmD, AE-C          Chair-Elect
Rory Johnson, PharmD, RPh, AE-C  Vice Chair
Kimberly Byrne, RN, BSN, CPN, AE-C Secretary
Maureen Damitz, BA, AE-C         Treasurer

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Evolution of the NAECB

- In 1999, representatives from more than 50 stakeholders groups met to discuss the need for an asthma educator certification process.

- First Board of Directors meeting was held in 2000.

- Exam was offered for the first time on September 19, 2002.
Candidate Handbook

The handbook is available on the website and is comprehensive with sample questions, detailed content outline (DCO), and operations of taking the exam.

Job Analysis

- The exam was developed over 18 months and is based on a national job analysis.
- The matrix is a result of the national job analysis and is based on sound scientific evidence for development.
- The difficulty of the test is accounted for in the final cut score determination.
Job Analysis

- Last Job Analysis conducted in 2009
  (New job analysis will be finalized in mid 2018)

- Surveys were sent to asthma educators across the country in 2009 and 2016 resulting each time in a new DCO (Detailed Content Outline) which encompasses all areas of asthma education. The Newest DCO is in effect 9-1-2018.

- The job analysis was evaluated by a group of Board members and invited community stakeholders who then redesigned the exam’s Detailed Content Outline (DCO).

- The DCO is the matrix which is used in exam development and item selection.

NAECB Exam Categories

<table>
<thead>
<tr>
<th>MAJOR CATEGORY</th>
<th>% of TEST QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. The Asthma Condition</td>
<td>20%</td>
</tr>
<tr>
<td>II. Patient &amp; Family Assessment</td>
<td>26%</td>
</tr>
<tr>
<td>III. Asthma Management</td>
<td>43%</td>
</tr>
<tr>
<td>IV. Organizational Issues</td>
<td>11%</td>
</tr>
</tbody>
</table>

Derived from the Asthma Educator Job Tasks Survey (through 8-31-18)
Challenges

- Health professionals are well-trained in exam content areas I, II, & III, such as the asthma condition, patient and family assessment, and asthma management.

- Category IV involves program development, implementation and evaluation.

- While these topics were identified as AE-C functions from the Job Analysis, they are not standard subjects covered in most allied health or bachelor degree programs, so may require additional study.

NAECB Exam Categories

<table>
<thead>
<tr>
<th>Cognitive Levels</th>
<th>Exam</th>
<th>Application</th>
<th>Analysis</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>29</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

Open cells show an examination could include items from indicated cognitive levels. Shaded cells prevent appearance of items on examinations.

I. THE ASTHMA CONDITION

A. Pathophysiology

a. normal pulmonary anatomy and physiology
b. alterations in lung anatomy and physiology that characterize asthma e.g.,
  - inflammation
  - bronchial hyperreactivity
  - bronchial wall edema
  - excess mucus secretion
  - smooth muscle contraction
c. immotile and potential long-term sequelae of airway inflammation e.g.,
  - hypereosinophilia
  - airway remodeling
d. processes occurring in the lungs during an asthma exacerbation

2. Explan

a. terms used to characterize asthma e.g.,
  - severity
  - control
  - impairment
  - risk
I. The Asthma Condition
   - Pathophysiology of asthma
   - Factors contributing to Acute and Chronic Asthma

II. Patient and Family Assessment
   - History
   - Physical Examination
   - Objective Measures
   - Educational Needs

III. Asthma Management
   - Medications and Delivery Devices
   - Behavioral and Environmental Modifications
   - Developmental Implementation, and Evaluation of an Asthma Management Plan

IV. Organizational Issues
   - Program Outcomes
   - Referral and Professional Networking
The Examination Items

- Cognitive levels of test items:
  - **Recall** - The ability to recall or recognize specific information
  - **Application** - The ability to comprehend, relate or apply knowledge to new or changing situations
  - **Analysis** - The ability to analyze information, determine solutions and/or evaluate the usefulness of a solution

Review Courses

**Do not underestimate the need to properly prepare for the examination.**

- As a certifying body, Board members are prohibited from being involved in any kind of course related to the examination, either through promotion, development or execution of the course.
- Many review courses are available from other professional organizations
- NAECB does NOT review or endorse or promote any of these review courses.
**Review Course Checklist**

**Things to ask about reviews/study aids:**

- Is the candidate handbook provided by the NAECB used as part of the teaching materials or has it been used to develop the course?
- Are there Certified Asthma Educators (AE-C) on the faculty of the course or available for questions?
- Is the organization keeping a record of their pass rate and, if so, what is the pass rate?
- These are not the only criteria that a candidate should consider when choosing a course. They are simply three areas that the NAECB believes should be considered in any decision.

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**Review Materials**

- NAECB board members **have not** participated in any way in the development of any outside materials marketed for review of this exam.
- NAECB **does not** endorse any outside materials marketed for the review of this exam.
- Any claims about success in helping to pass the Asthma Educator Certification Examination by using these materials should be investigated thoroughly by the candidate.
- NAECB has a list of resource materials that may be used by candidate as part of an overall plan of preparation for the exam.
- None of these materials are meant to be review materials or review courses explicitly meant to be used to prepare solely for the NAECB asthma educator certification examination.

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NAECB’s Self-Assessment Exam (SAE)

- The SAE was developed to assist in identifying those areas of strength or weakness for each individual.
- The SAE is a practice exam, available to download from the website and is a shorter version of the exam.
- Contains 75 questions which are EPR-3 compliant and match the existing DCO.
- Cost is $75 for 3-month online access

Exam Committee 2018

Charge: To be responsible for all phases of examination development, including the job analysis, examination content, delivery, security, and determination of the passing score.

Co-Chairs: Tim Hudd, BS, Pharm.D., R.Ph., AE-C; Rory Johnson, Pharm. D., R.Ph., AE-C

Members:
- Traci Arney, MN, NP-C, AE-C, FAANP
- Clifton Dennis, RRT, AE-C
- Gary Falcetano, PA-C, AE-C
- Linda Ford, MD, FACCAAI, FAAAAI, AE-C
- Antoinette Gardner, RN, BSN, M.Ed., AE-C
- Kristin Homze, RN, MSN, APRN, FNP-BC, AE-C
- Tami Kochan, RN, MSN, CPNP, AE-C
- Francesca Lopez, BS, MSPH, HHS, AE-C
- Karen Meyerson, MSN, RN, FNP-C, AE-C
- Kelvin Panesar, MD, AE-C
- Randall Rife, RRT-NPS, AE-C

The examination committee also includes a group of adjunct members, who are part committee members/board members.
NAECB Exam

- 175 multiple choice questions
  - 150 test items
  - 25 pretest items
    - Not identified
    - Performance on these items does not affect score
  - Includes some “multiple multiples”
  - 3.5 hours allowed for exam

- Multiple forms

- Sample questions and Review References are in the Candidate Handbook on website:
  www.naecb.org

NAECB Exam: Application & Scheduling

- Online or paper
  - www.naecb.org
- Complete & submit application & payment
- Must sign Code of Conduct
- Make examination appointment, pending confirmation of having met eligibility requirements
- Request for special accommodations available
How and Where to Take the Test

- Test is taken online at approximately 300 PSI Test Centers geographically located throughout the United States
  - The assessment centers are listed at: www.goAMP.com

NAECB Exam Fees (In US)

- $350 - New candidate
  - If successful
    - Certification designation of AE-C®
    - Receipt of NAECB certificate
    - Certification is valid for 7 years
- $250 - Repeat candidate (fee per exam)
  - Must wait 90 days between attempts and no more than 3 attempts allowed in 1(one)year
- $300 – Recertification (up to date of expiration)
  - $350.00 past expiration date
  - Increased fees for tests taken outside of U.S.
Re-certification

By Examination:
- Exam can be taken no sooner than 365 days before the certification expires.
- $50.00 discounted fee when re-certifying prior to expiration date.
- Testing must be completed by expiration date.
- Letters sent 12 months prior to expiration. Keep contact information up to date.
- Certification is valid for 7 years.

By Continuing Education Units (first available August 2013):
- Candidates for recertification by continuing education (CE) credits must have PASSED the last exam taken. Any candidate who has not passed the last attempted asthma educator certification exam is not eligible to recertify by the CE option.
- 35 CE credits must have been obtained within 5 years prior to certificant's expiration date.
- Applications must be completed and sent in prior to expiration date with a fee of $300. Complete process takes approximately 30 days from application submission. Recertification by CEU is allowed up to 2 years after original expiration date for $350.00. ≥ 2 years past expiration date is by exam only.
- Certification is valid for 5 years.

Linda B. Ford Scholarship

- The scholarship was created to provide assistance for individuals pursuing their national asthma educator certification and those recertifying.
- The award is named after Linda B. Ford, MD, the first chair and a founding member of the NAECB, the first and only U.S. organization to provide a national certification examination for asthma educators.
- The application and information is available online https://www.naecb.com/scholarship.php
If You Do Not Pass The Examination

- There is a waiting period of ninety (90) days between examination attempts with a maximum of three (3) attempts in a one (1) year period. In the case of extenuating circumstances, candidates may petition the NAECB.

- If the time has exceeded one year since the date of your application to NAECB, you will need to apply to the NAECB again for permission to take the NAECB examination with all the associated fees.

After You Pass the Exam

- Consider running for the board of directors
  - Some new board members are elected every year.

- Vote if certified: Current Certified Asthma Educators (AE-C’s) elect new board members

- Consider volunteering to work on one of the committees of the board.

- Let others know you are certified and encourage others to take the exam.

- Let NAECB know how your AE-C has helped you. Get highlighted in the e-newsletter available at www.naecb.org.
Exam Statistics

- Overall, 9,797 people have taken the NAECB exam through 9-30-2017 including first time examinees, those retaking, and those recertifying by exam.
- The pass rate for those taking the exam for the first time is 65.9%
- 777 certificants completed recertification by Continuing Education (CE) Credits and 395 certificants completed recertification by exam as of 9-30-2017

Form 13 Data
8/27/2014 to 8/31/2016

<table>
<thead>
<tr>
<th>Candidate Group</th>
<th>N</th>
<th>Passing</th>
<th>Failing</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Candidates</td>
<td>602</td>
<td>337</td>
<td>265</td>
<td>56.00</td>
</tr>
<tr>
<td>First-Time</td>
<td>505</td>
<td>298</td>
<td>207</td>
<td>59.01</td>
</tr>
<tr>
<td>Repeat</td>
<td>85</td>
<td>30</td>
<td>55</td>
<td>35.29</td>
</tr>
<tr>
<td>Recertification</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>75</td>
</tr>
</tbody>
</table>

All showed slight increase in pass rate except for recertification group from last form
### NAECB – Asthma Educator Exam – Form 13
Pass-Fail Rate for Examinees (1st time, repeat & recertification)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Pass</th>
<th>Fail</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Nurses</td>
<td>141</td>
<td>70</td>
<td>211</td>
</tr>
<tr>
<td>RT/C-PFT</td>
<td>123</td>
<td>145</td>
<td>268</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>39</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>Social Workers</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Health Educators</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1000 Hours Experience</td>
<td>20</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>337</strong></td>
<td><strong>265</strong></td>
<td><strong>602</strong></td>
</tr>
</tbody>
</table>

### NAECB – Asthma Educator Exam
Pass Rate % (First time takers only- Form 13)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>All Testers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>57.1%</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>100.00%</td>
</tr>
<tr>
<td>Nurses</td>
<td>69.4%</td>
</tr>
<tr>
<td>RT/C-PFT</td>
<td>48.5%</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>77.8%</td>
</tr>
<tr>
<td>Social Workers</td>
<td>100%</td>
</tr>
<tr>
<td>Health Educators</td>
<td>50%</td>
</tr>
<tr>
<td>1000 Hours Experience</td>
<td>40.4%</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>100%</td>
</tr>
</tbody>
</table>

Nurses only group to increase +9%; PA – no change; Social Work/PT – none last form
Physicians down 20%; health educators down 17%; 1000 hours down 9%; RT/C-PFT down 3%
### Education Level

**Form 13 Data  8/27/2014 to 8/31/2016**

<table>
<thead>
<tr>
<th>Highest Education Level</th>
<th>Total #</th>
<th>Pass #</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>38</td>
<td>15</td>
<td>39.5%</td>
</tr>
<tr>
<td>Associate</td>
<td>181</td>
<td>84</td>
<td>46.4%</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>193</td>
<td>107</td>
<td>55.4%</td>
</tr>
<tr>
<td>Master's</td>
<td>111</td>
<td>84</td>
<td>75.7%</td>
</tr>
<tr>
<td>Doctoral or Medical</td>
<td>64</td>
<td>43</td>
<td>67.2%</td>
</tr>
</tbody>
</table>

### Pass rates based on demographics

1) **Years experience as an asthma educator**
   
a) Very little difference in pass rate based on years of experience. Range: 52.0 to 64.4% with highest for those with 16 years of more experience.

2) **Nature of practice setting and primary practice setting**
   
a) **Practice setting**: Highest pass rates seen in University: 68.2% and physician offices: 70.2%
   
b) **Type of Primary practice setting**: Highest pass rates:
      Academic: 77.4% and physician offices: 71.9%
      Lowest pass rates: home health agency: 28.6%;
      community health agency: 36.2% and hospital inpatient area: 44.1%
3) **Number of hours per week in asthma education**
   a) Ironically greater number of hours showed lower pass rate overall. (also seen with earlier forms)

<table>
<thead>
<tr>
<th>Number of hours/week</th>
<th>Pass rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 8 hours</td>
<td>61.6%</td>
</tr>
<tr>
<td>8-16 hours</td>
<td>63.2%</td>
</tr>
<tr>
<td>17-24 hours</td>
<td>60.9%</td>
</tr>
<tr>
<td>25-32 hours</td>
<td>55.8%</td>
</tr>
<tr>
<td>33-40 hours</td>
<td>49.1%</td>
</tr>
<tr>
<td>&gt; 40 hours</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

4) **Location of primary practice setting**
   Urban: 54.9%  Rural: 42.4%  Suburban: 65.8%

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Form 13 Data  8/27/2014 to 8/31/2016

**How do people find out about certification?**

50.8% from a colleague
   this remains highest way since the start
23.1% other ways
14.5% from the NAECB website
7.5% from a professional journal
5.3% from regional or national meetings
Exam Statistics

- Consistency across content areas supports the reliability of current content
- Consistency has remained over the last 5 forms which have been retired since the newly updated job analysis and test matrix. This consistency was also seen with the previous 8 retired forms for this exam.
National Asthma Educator Certification Board

*Promoting Excellence in Asthma Education*

For more information, contact:

NAECB
877-408-0072
info@naecb.org