

July 2016

**Call for Nominations to the  
2017-2019  
NAECB Board of Directors**

Nominations for the Board of Directors for NAECB are now open.  
**Applications will be accepted until August 15, 2016.**

There are 4 (four) positions to be filled for the 2017-2019 term. To maintain the board's professional diversity, we are looking for healthcare professionals and other individuals interested and involved in asthma education.

This year, we are in particular need of applicants in the following areas:

- Behavioral Scientist
- Nursing - in the areas of non-Advanced Practice or School Nursing
- Pharmacy

- Physician - in the area of Allergy
- Respiratory Therapy - RT/RRT/PFT

The call for nominations document and Board of Director application can be downloaded by clicking on the links below:

[NAECB Call for Nominations 2017-2019](#)

[NAECB BOD application 2017-2019](#)

## **Asthma Camps**

**Free Weekend Respiratory camps** are available thru Camp Soaring Eagle in Cornville, Arizona, for children ages 6-15 years with asthma.

Apply at: [www.campsoaringeagle.org](http://www.campsoaringeagle.org) or contact Anna Viviano, Camper Recruiter at 480-253-9924.

Here is a **great resource** to share with parents of a child or teenager with asthma, interested in **finding an asthma camp** in their community:

The Consortium on Children's Asthma Camps - <http://asthmacamps.org/>

**Arizona Asthma Coalition's  
10th Annual Clinical Asthma & Allergy Conference  
Saturday, October 8th, 2016**

**EARLY BIRD REGISTRATION IS OPEN, SO REGISTER NOW!**

The Arizona Asthma Coalition will hold its 10th Annual Clinical Conference on Saturday, October 8, 2016, from 7:15 a.m to 4:00 p.m. at the St. Joseph's Hospital & Medical Center, Phoenix.

The theme of the conference is The Role of Interprofessional Teams in Managing Asthma and Allergy.

The conference will explore the relationship of allergy and asthma, and include three tracks:

- Pharmacological Therapy - new biologics in the treatment of asthma, and the comparison of inhaled corticosteroids
- Clinical Practice - sublingual vs. asthma shots, and the role of new biologics in the treatment of asthma
- School Nurses - medication primer: basic pharmacology of inhalers, rescue vs. controllers, and protocols for training non-medical staff to manage asthma emergencies

Learn about collaborative management of chronic diseases, and the impact of air quality on asthma, and the latest research and treatments for asthma and allergies.

CME/CEU credits will be provided for physicians, PAs, nurses, nurse practitioners, asthma educators and respiratory care practitioners.

This educational activity is designed for practicing pediatric and adult primary care providers, asthma specialists (pulmonologists and allergists), pediatric and family nurse practitioners, respiratory therapists, pharmacists, nurses, quality assurance and case managers, MA's and anyone else involved in the care of people with asthma to increase their knowledge of asthma best practices.

You can register on line at [www.azasthma.org](http://www.azasthma.org), per the instructions on the attached registration form.

For questions about registration, contact Melanie Esher-Blair at [mesher@peds.arizona.edu](mailto:mesher@peds.arizona.edu)

**Association of Asthma Educators  
2016 Annual Conference  
August 5-7, 2016 in Jacksonville Florida**

The Association of Asthma Educators is the premier inter-professional organization striving for excellence to raise the competency of diverse individuals who educate patients and families living with asthma.

The primary purposes of the Association of Asthma Educators are to:

- Promote asthma education as an integral component of a comprehensive asthma program.
- Raise the competence of health care professionals who educate individuals and families affected by asthma
- Raise the standard of care and quality of asthma education delivered to those with asthma.

<http://www.asthmaeducators.org/>

**National Jewish Health  
21st Annual Allied Health Conference  
September 9, 2016 in Denver Colorado**

The National Jewish Health will hold its 21th Annual Allied Health Conference on Friday, September 9, 2016, from 7:55 a.m to 4:00 p.m. at the Molly Blank Conference Center at National Jewish Health Main Campus 1400 Jackson St. Denver, CO 80206.

Upon completion of this conference, the participant will be able to:

\*Describe the latest treatments and key self management strategies for a variety of chronic diseases and conditions.

\*Discuss medication updates for selected chronic diseases.

\*Discuss current issues related to inhalation therapy.

<https://www.nationaljewish.org/>

Please submit any upcoming conferences to [info@naecb.org](mailto:info@naecb.org)

## **Asthma in the News**

### **New study shows microRNAs play important role in inducing asthma**

A new study shows that microRNAs (small, noncoding RNA molecules that can silence genes), have an important role in inducing asthma, and regulating the function of specific miRNAs identified in the study could represent a new approach to asthma therapy.

<http://bit.ly/290cjpt>

### **Early rhinovirus, aeroallergen sensitization linked to asthma persistence in adolescence**

Researchers followed 217 children prospectively from birth to age 13 years, examining the etiology and timing of rhinovirus and respiratory syncytial virus during the patients' first 3 years, and determining patterns of allergen sensitization.

<http://bit.ly/2924Cn5>

### **Aeroallergen-induced IL-33 predisposes to respiratory virus-induced asthma by dampening antiviral immunity**

According to the study, exposure to a respiratory virus, followed very closely by exposure to an allergen, induced the release of IL-33, which plays a significant role in the development of asthma. Researchers are testing a drug that targets IL-33, which could potentially reverse or halt the development of asthma.

<http://bit.ly/298irzg>

### **New Patient Assistance/Coupon Website For Asthma Meds**

The Children's Health Alliance of Wisconsin has updated their medication assistance website to include links to coupons and patient assistance websites for 32 asthma medications. Please share this information with your colleagues and patients located anywhere in the United States. [www.chawisconsin.org/meds/](http://www.chawisconsin.org/meds/)

### **ACIP votes down use of LAIV for 2016-2017 flu season**

CDC's Advisory Committee on Immunization Practices (ACIP) voted that live attenuated influenza vaccine (LAIV), also known as the "nasal spray" flu vaccine, should not be used during the 2016-2017 flu season, recommending annual flu vaccination, with either the inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV), for everyone 6 months and older. <http://bit.ly/28OqUEo>

### **Add-on Tiotropium Therapy Improves Asthma Regardless of Many Patient Characteristics**

Two randomized, double-blind, parallel-group twin trials have shown that add-on tiotropium therapy helps to control asthma in symptomatic patients regardless of many patient characteristics, including gender, body mass index, disease duration, age at asthma onset, FEV1 percentage predicted at screening, and FEV1 reversibility.

<http://bit.ly/29pS5X7>

### **AAFP Offers Free COPD, Asthma Resources for Physicians, Patients**

The American Academy of Family Physicians has created a four-page booklet to help family physicians and their patients better understand the differences -- and the similarities -- between chronic obstructive pulmonary disease (COPD) and asthma, which addresses the diagnostic differences between COPD and asthma, how to help patients self-manage their illness, and the importance of short- and long-term monitoring.

<http://bit.ly/29dw7sR>

### **Certain red flags indicate an increased need for intensive care among patients with asthma**

In patients admitted to the hospital for asthma, illicit drug use and low socioeconomic status were linked with an increased risk of requiring admission to the intensive care unit. Not adhering to asthma prevention medication further increased this risk.

<http://bit.ly/29fHe5V>

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## **Sex Differences in the Relationship between Fitness and Obesity on Risk and Asthma in Adolescents**

Lu KD, Billimek J, Bar-Yoseph R, Radom-Aizik S, Cooper DM, Anton-Culver H.  
June 2016

### **Objective:**

To evaluate the relationship of fitness and obesity on asthma risk in adolescent girls and boys.

### **Study Design:**

A cross-sectional assessment of participants 12-19 years of age was conducted by the use of data from the 1999-2004 National Health and Nutrition Examination Survey. Participants completed cardiorespiratory fitness testing, body composition measurements, and respiratory questionnaires.

### **Results:**

A total of 4828 participants were included. Overweight/obesity was associated with increased odds of history of asthma (aOR 1.63, 95% CI 1.16-2.30), current asthma (aOR 1.73, 95% CI 1.13, 2.64), and wheezing (aOR 1.40, 95% CI 1.03-1.91) in girls. Overweight/obesity also was associated with increased odds of asthma attacks (aOR 2.67, 95% CI 1.56-4.65) and wheezing related to exercise (aOR 1.60, 95% CI 1.07-2.38) in girls. High fitness was associated with lower odds of asthma-related visits to the emergency department (aOR 0.24, 95% CI 0.07-0.89),

wheezing-related medical visits (aOR 0.31, 95% CI 0.13-0.75), wheezing-related missed days (aOR 0.14, 95% CI 0.06-0.33), and wheezing related to exercise (aOR 0.43, 95% CI 0.24-0.76) in boys.

**Conclusion:**

Overweight/obesity is associated with increased asthma prevalence and morbidity in girls but not in boys, independent of fitness. High fitness is associated with decreased rates of asthma morbidity in boys but not in girls, independent of weight status. Obesity and fitness may each influence asthma onset and severity in different ways for girls compared with boys.

<http://www.ncbi.nlm.nih.gov/pubmed/27318375>

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**Evaluating emergency department asthma management practices in Florida Hospitals**

Nowakowski ACH, Carretta HJ, Dudley JK, Forrest JR, Folsom AN.  
July 2016

**Objective:**

To assess gaps in emergency department (ED) asthma management at Florida hospitals. Design: Survey instrument with open- and closed-ended questions. Topics included availability of specific asthma management modalities, compliance with national guidelines, employment of specialized asthma care personnel, and efforts toward performance improvement.

**Setting:**

Emergency departments at 10 large hospitals in the state of Florida.

**Participants:**

Clinical care providers and health administrators from participating hospitals.

**Main Outcome Measures:**

Compliance with national asthma care guideline standards, provision of specific recommended treatment modalities and resources, employment of specialized asthma care personnel, and engagement in performance improvement efforts.

**Results:**

Our results suggest inconsistency among sampled Florida hospitals' adherence to national standards for treatment of asthma in EDs. Several hospitals were refining their emergency care protocols to incorporate guideline recommendations. Despite a lack of formal ED protocols in some hospitals, adherence to national guidelines for emergency care nonetheless remained robust for patient education and medication prescribing, but it was weaker for formal care planning and medical follow-up.

**Conclusions:**

Identified deficiencies in emergency asthma care present a number of opportunities for strategic mitigation of identified gaps. We conclude with suggestions to help Florida hospitals achieve success with ED asthma care reform. Team-based learning activities may offer an optimal strategy for sharing and implementing best practices.

<http://www.ncbi.nlm.nih.gov/pubmed/25723873>

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## **Perceptions and experiences underlying self-management and reporting of symptoms in teens with asthma**

Mammen JR, Rhee H, Norton SA, Butz AM.

June 2016

### **Background:**

Teens often have inadequate asthma self-management and control. However, little is known of their perceptions of or rationales for self-management behaviors.

### **Objectives:**

To explore how teens self-manage asthma, including experiences, perceptions, responses to and reporting of symptoms.

### **Methods:**

A case-based, qualitative-descriptive design was used. Data were collected from minority and non-minority teens with controlled and uncontrolled asthma and their respective parents (N = 28). There were four data-collection points, including: (1) a primary teen interview; (2) parent interview; (3) two-week self-management voice-diary; and (4) follow-up teen interview, incorporating symptom-response card-sorting to map symptoms and associated self-management responses. Seventy data sources were included in the analysis.

**Results:**

Teens thought of their asthma symptoms as normal or unusual relative to their personal baseline symptom pattern. Those with uncontrolled asthma normalized higher levels of asthma symptoms than their counterparts with controlled asthma. Second, teens' decisions to treat symptoms of asthma with rescue medication were based on perceived benefits, burdens and accessibility of treatment balanced against perceived normalcy of symptoms. Teens with uncontrolled asthma had substantially higher treatment thresholds and delayed responses to symptoms compared to controlled peers. Third, teens never reported perceived normal symptoms of asthma to parents or providers, who were thus only aware of unusual or visible/audible symptoms.

**Conclusions:**

Teen's perceptions of symptoms and understanding of what is normal is the basis for self-management decisions. Improving self-management will likely entail modifying perceptions of symptoms and benefits/burdens of treatment to achieve healthier self-management patterns.

<http://www.ncbi.nlm.nih.gov/pubmed/27337035>

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**Increased Identification of the Primary Care Provider as the Main Source of Asthma Care among Urban Minority Children.**

Igbal SF, Jiggets J, Silverbrook C, Shelef DQ, McCarter R, Teach SJ.  
June 2016

**Objective:**

Urban, minority, and disadvantaged youth with asthma frequently use emergency departments (EDs) for episodic asthma care instead of their primary care providers (PCPs). We sought to increase the rate of guardians' identification of the PCP as the source of asthma care for their children through integrated electronic health records and care coordination.

**Methods:**

In this prospective cohort study, we implemented an electronic communication process between an asthma specialty clinic and PCPs coupled with short-term care coordination in sample of youth aged 2-12 years with asthma and surveyed their guardians at baseline and 3 and 6 months after the intervention.

**Results:**

Guardians of 50 children (median age 5.8 years, 64% male, 98% African American, 94% public insurance) were enrolled. Compared to baseline, at 3 and 6 months after the intervention, significantly more guardians reported that the PCP was their child's primary asthma health care provider [70% at baseline, 85% at 3 months, 83% at 6 months (time averaged adjusted OR 77.4, 95% CI 3.0, 2027.1)]. Further, significantly more guardians reported that they took their child to the PCP when the child experienced problems with his/her asthma [16% at baseline, 35% at 3 months, 41% at 6 months (time averaged adjusted odds ratio (OR) 10.6, 95% CI 2.7, 41.7)].

**Conclusion:**

Care in a subspecialty asthma clinic augmented by electronic communication with PCPs and short

term care coordination was associated with significantly improved identification of PCPs as the primary source of asthma care in a cohort of urban minority youth.

<http://www.ncbi.nlm.nih.gov/pubmed/27310655>

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**Work stress, asthma control and asthma-specific quality of life: Initial evidence from a cross-sectional study.**

Hartmann B, Leucht V, Loerbroks A.  
June 2016

**Objective:**

Research has suggested that psychological stress is positively associated with asthma morbidity. One major source of stress in adulthood is one's occupation. However, to date, potential links of work stress with asthma control or asthma-specific quality of life have not been examined. We aimed to address this knowledge gap.

**Methods:**

In 2014/2015, we conducted a cross-sectional study among adults with asthma in Germany (n = 362). For the current analyses that sample was restricted to participants in employment and reporting to have never been diagnosed with chronic obstructive pulmonary disease (n = 94). Work stress was operationalized by the 16-item effort-reward-imbalance (ERI) questionnaire, which measures the subcomponents "effort", "reward" and "overcommitment." Participants

further completed the Asthma Control Test and the Asthma Quality of Life Questionnaire-Sydney. Multivariable associations were quantified by linear regression and logistic regression.

**Results:**

Effort, reward and their ratio (i.e. ERI ratio) did not show meaningful associations with asthma morbidity. By contrast, increasing levels of overcommitment were associated with poorer asthma control and worse quality of life in both linear regression ( $\beta = -0.26$ ,  $p = 0.01$  and  $\beta = 0.44$ ,  $p < 0.01$ , respectively) and logistic regression (odds ratio [OR] = 1.87, 95% confidence interval [CI] = 1.14-3.07 and OR = 2.34, 95% CI = 1.32-4.15, respectively).

**Conclusions:**

The present study provides initial evidence of a positive relationship of work-related overcommitment with asthma control and asthma-specific quality of life. Longitudinal studies with larger samples are needed to confirm our findings and to disentangle the potential causality of associations.

<http://www.ncbi.nlm.nih.gov/pubmed/27328314>

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**Asthma- free with no hay fever? Thank your older sibling**

By: Natalie Jacewicz

June 22, 2016

Older siblings may be good for something after all. Infants whose mothers have been pregnant previously may have more active immune systems that protect them against asthma and hay fever, according to a paper in the June issue of *Allergy*.

Researchers have noted a positive relationship between older siblings and allergies since at least 1989, when a study following British children for 23 years found that the more older siblings a child has, the less likely she or he will be allergic to airborne particles like dust and pollen. But exactly how older siblings boost younger sibling health has continued to flummox scientists.

To learn more about the mechanism behind this resilience, Danish researchers studied 571 1-month-old babies. Like many things concerning small children, the study involved snot - the researchers collected samples from each infant's nose. They found that infants whose mothers had been pregnant before had significantly higher levels of signal proteins associated with triggering immune response.

This immune "signature" may make younger siblings' systems "more alert" to possible sources of infection, according to systems biologist Susanne Brix Pedersen of the Technical University of Denmark, who co-authored the paper. While these proteins cause cells to react to foreign microorganisms, the proteins are not the "Type 2" immune chemicals that help trigger allergic reactions. The researchers think younger siblings may therefore be primed to respond to foreign objects like pollen through means other than allergy.

"We train our immune system in very early life," says Brix Pedersen. "Being able to train it seems to protect us for later in life."

The researchers are not sure if older siblings benefit babies before birth, after, or both. Brix Pedersen says that after a first pregnancy, a mother's immune system may recognize another fetus from the same father, and therefore treat it differently, potentially leading to changes in the way subsequent babies' immune systems develop.

In the Danish study, the researchers found that the more time that had passed between pregnancies, the lower the levels of helpful immune proteins younger siblings had. This decreased benefit over time could suggest that previous pregnancies change the chemistry inside the womb and that these changes wear off with time.

On the other hand, Brix Pedersen points out that the pattern could also be explained by post-birth benefits. Older siblings may be at their dirtiest when young, and therefore the most helpful in exposing younger siblings to microbes and building up a stronger immune response. Once older siblings age and embrace personal hygiene, they may bolster babies' immune systems less. The researchers intend to continue studying the infants as they age to see if their immune signatures do indeed protect them against asthma and allergy as expected.

"I'm more biased that it's in utero, happening before birth," says Dr. Wilfried Karmaus, a professor of epidemiology at the University of Memphis School of Public Health who was not involved in the study. Citing the impact of birth order on obesity and diabetes, Karmaus says, "We have to consider how to apply this knowledge to prevent allergies. How can we mimic chemistry to make it as though the first pregnancy is the second pregnancy?"

Older siblings may get the raw end of the immune system deal, but older sibling Morgan Rees, who was not involved in the study, isn't bitter. Rees, a 19-year-old rising sophomore at the

University of Pennsylvania, says she doesn't begrudge her younger brother his health, though she has asthma and he does not.

"My brother and I are both cross-country runners," says Rees, whose asthma is exercise-induced. After she realized she had asthma in high school, she says she kept running the 1-mile event in track, but her times did not improve, and her asthma was "super disruptive." Still, she enjoys cheering on her brother, who is now a senior in high school and asthma-free.

"I helped get him into running," Rees says. "I'm so proud of him now. He's getting really fast, which is fun to watch."

A stronger immune system, it seems, does not necessitate stronger sibling rivalry.

<http://www.npr.org/sections/health-shots/2016/06/22/482998036/asthma-free-with-no-hay-fever-thank-your-older-sibling>

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### **Portable device could help prevent asthma attacks**

By: Maggie Newland  
June 21, 2016

RALEIGH, N.C. (WNCN) - For people who suffer from asthma, attacks can be scary and dangerous, but local researchers are working on a device that could predict and ultimately

prevent asthma attacks.

Every week Darrien Reeves gets numerous shots to control his severe asthma. That's on top of his daily medications and inhaler for emergencies.

"He really has to be aware of his symptoms to prevent an attack," explained his mother, Charlotte Reeves.

At UNC Hospital Children's Clinic in Raleigh, Darrien Reeves' doctors are testing a device that may make it easier to prevent asthma attacks. It's a portable spirometer that measures lung function.

"This is in the beginning stages. Right now, they're trying to calibrate the devices to well tested models," explained Dr. Michelle Hernandez.

The spirometer could eventually be part of a larger device researchers are working on at NC State. It would also include a wearable chest patch and wristband.

"We're constantly measuring their heart rate, their motion, from the chest patch, skin hydration. Then from the wristband, we're measuring ozone, volatile organic compounds the basic air quality they're exposed to," said James Dieffenderfer, a PhD student at NC State.

"The biggest benefit of this device is measuring environment and health simultaneously," added Alper Bozkurt, an assistant professor in the electrical and computer engineering department at North Carolina State University.

Combined data from the three devices will go to a smart phone and onto the cloud to alert patients, physicians, or caretakers when they might be vulnerable to an asthma attack.

"If there's a trigger that's showing the child's going through an asthmatic response the inhaler can be given and also it can be understood this person should not be in this environment because it causes them to have asthma," said N.C. State's Veena Misra. She's the director of the Advanced Self-Powered Systems of Integrated Sensors and Technologies Center where researchers are working on the device.

Researchers say the device could be available to patients within two to three years.

Darrien Reeves says it's a device he'd certainly consider if it goes on the market.

<http://wncn.com/2016/06/21/portable-device-could-help-prevent-asthma-attacks/>

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The editors would like to acknowledge Madeline Daniels and Gabriel Vasquez from First Focus, and Tisa Vorce from the Michigan Department of Health and Human Services, for sharing news items related to Asthma in the News.

***The editors reserve the right to decline submissions for any reason.***

## **NAECB Newsletter Editors:**

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## Promoting Excellence in Asthma Education

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