2015 AAP NCE: A “Monumental” Experience for Medical Students

By Alison Mols

Medical students from across the country gathered together at the 2015 AAP National Conference and Exhibition (NCE) held in Washington, D.C. to learn about the evolving field of Pediatrics. This five-day conference started on Friday, October 23rd with an evening reception open to all attendees commencing the fun-filled weekend. On Saturday, October 24th, the Section on Medical Students, Residents and Fellowship Trainees (SOMSRFT) began its programming to inform, motivate, and energize trainees through various educational sessions with an energizing keynote address from Dr. Judy Palfrey, Director of the International Pediatric Center at Boston Children’s and past Director of the AAP, highlighting the role of pediatricians as advocates within their communities. (Continued)
Later in the afternoon, medical students reconvened to take part in plenary events led by the Medical Student Subcommittee (MSSC). After updates on ongoing efforts from current leaders, Dr. Lee Beers of Children’s National’s Child Health Advocacy Institute, provided a special keynote address to the medical students on “Advocacy in Pediatrics: A journey worth taking”. In her speech, she shared personal stories and lessons she learned along her training such as “don’t be afraid to just jump in and try,” and “find and follow your passion.” Through numerous experiences, Dr. Beers found and followed her passions, which resulted in starting child psychiatry access programs as well as implementing universal mental health screenings.

Jamie Poslosky, Director of the AAP Division of Advocacy Communications then took to the stage to discuss past and current legislative events as well as the role of the AAP on Capitol Hill. Additionally, Ms. Poslosky pointed out ways that social media outlets such as Facebook and Twitter have changed how news gets broadcasted and received by the masses.

Following these great keynote sessions, medical students took part in an interactive round-table session where students could discuss needs that exist in their communities and brainstorm projects that could be feasible to help meet these needs. During this time, groups chatted about the FACE Poverty campaign as well as other specific projects, such as letter-writing campaigns and food drives, taking place in their communities to improve child health and wellness. The session ended with an expert residency panel attended by Dr. Kenya McNeal-Trice, Pediatric Residency Program Director at University of North Carolina, Dr. Janet Serwint, Pediatric Residency Program Director at Johns Hopkins University, and Dr. Terry Kind, Assistant Dean for Clinical Education at George Washington University School of Medicine. During this time, attendees had the opportunity to ask questions of these panelists who offered insights and advice. Questions included topics such as how to create a thoughtful personal statement to specific qualities that program directors looked for in international medical (Continued)
graduates (IMGs). All three panelists provided excellent responses that were well received from students in attendance.

Following completion of the MSSC plenary session, medical students were invited to the SOMSRFT Reception & Poster Display. This event provided students with an excellent networking opportunity and recognized individuals who submitted posters based on clinical cases. Medical students who attended the NCE for the remainder of the conference, were also able to listen to various educational sessions based on their interests, explore the Exhibit Hall to learn about medical products geared towards a pediatric population, and network with other individuals and programs from around the country. However, no matter when students left D.C. to head back to their respective communities, they left with a reaffirmed sense of dedication and commitment to Pediatrics and a new burst of energy to pursue new projects to promote the health and wellness of children.

If you have any questions about the NCE or about how you can become involved in the MSSC, please feel free to contact a representative from the Medical Student Subcommittee with contact information at the last page of this newsletter! We hope to see you at the 2016 AAP NCE in San Francisco, California on October 22nd – 25th!

For more information on the residency panel discussion and for more helpful information, please explore PedsConnect.

Starting the Conversation: Gun Safety and Pediatric Health

By Priyanka Saha and Amy Yu

Gun violence often makes the headlines whenever there is a mass shooting, yet these events account for less than 1% of all gun-related deaths nationally. The number we don’t often hear is that 83 people are killed per day by firearms due to homicide or suicide. That adds up to over 33,000 firearm-related deaths per year, a statistic which has remained relatively consistent over the last decade. One in five deaths among people aged 15-29 are due to firearms. Each year, 340,000 children are treated in the emergency department for violence related injuries (1.2% of total visits). Violence, specifically due to firearms, is undoubtedly a significant public health issue and one that pediatricians are becoming more and more familiar with.

In light of the most recent tragedy of San Bernardino and the polarizing national debate on gun legislation, the students of the Pediatric Interest Group at Harvard Medical School invited Dr. Eric Fleegler, a pediatric (Continued)
emergency physician at Boston Children’s Hospital, to lead a discussion on the relationship between firearms, pediatrics and public health. In addition to his role as a clinician, Dr. Fleegler is a passionate health services researcher who founded HelpSteps.com, an online tool that helps connect people in Massachusetts with health services they may need, and is also a leading advocate for the physician’s role in home firearm safety.

Dr. Fleegler’s goals for the talk were threefold: to review the epidemiology of gun violence in the U.S., to evaluate legislative approaches aimed at decreasing firearm violence, and to propose clinical interventions. After presenting statistics on the astoundingly high national prevalence of firearm-related injury and mortality, he posed the question: does legislation actually have an effect on the number of firearm-related deaths? The answer was a resounding “yes.” In one of his studies, it was shown that states with higher legislative strength concerning firearms had lower incidence of firearm-related fatalities. Overall, there was a 42% reduction in overall firearm-related fatalities from the highest quartile to lowest quartile group of states.4

Despite the positive impact of legislation, making inroads has become significantly more challenging due to funding cuts and changes in cultural beliefs. Funding for gun violence-related research pales in comparison to other public health issues. For the past two decades, laws prohibited federal money to be used to conduct research on gun safety.5 Additionally, Gallup polls show that the public attitudes towards guns have changed in the last 15 years. There has been a gradual shift from the belief that guns make homes more dangerous to one that guns make homes safer.6

Yet, when it comes to children, studies show that guns in fact do not make homes safer. In a study by Farah et al., 74% of parents believed that their kids could tell the difference between a toy and real gun and 23% believed they could be trusted with a loaded gun.7 Jackman et al. put these statistics to the test. They observed 29 groups of boys in a room with two toy guns and one actual 0.380 caliber handgun. The results were striking: 76% of the boys handled the real gun and 48% pulled the trigger, pointing the gun at the other boys as if in a play-shootout. Remarkably, 90% of these boys had been previously trained on gun safety, thus demonstrating that training does not “gun-proof” kids despite what parents may think.8 (Continued)

Figure: This graphic above is from Dr. Fleegler’s lecture. It shows the differences in public funding for gun violence versus public funding for other public health issues.
Physicians can play a role in making homes safer for kids. Dr. Fleegler proposed simple steps medical professionals could take to improve gun safety. First of all, he urges medical professionals to start by simply asking parents the question: do you have guns at home? This question can easily be incorporated into a standard H&P, placed organically among other safety questions about wearing helmets and buckling seatbelts. Second, he urges health professionals to refrain from showing judgment. It is important to realize that gun safety is a sensitive subject for many people and to always remember to respect the patient. Third, Dr. Fleegler stresses the importance of knowing who is in the room, as patients may feel uncomfortable acknowledging violence at home in front of other family members.

Finally, Dr. Fleegler shared insight on how to respectfully counsel patients about storing guns safely by simply saying, “Having a loaded or unlocked gun in your house increases the risk of injury or death to family members, whether by accident or on purpose. I urge you to store your unloaded guns in a locked drawer or cabinet and out of the reach of children.” Just starting the conversation with patients about guns can make a significant impact.

For more resources on gun safety and to learn how you can get involved, click here.

References:
pediatrician’s office four years ago, I saw firsthand how families can be impacted by this tick-borne illness. Therefore, I decided to participate in Lyme Corps because I wanted to teach both my community here in Vermont and my community back in Maine more about this condition through increased awareness and prevention. As a budding pediatrician, Lyme disease is especially relevant since children are at particularly high risk for contracting Lyme disease.

What is Lyme disease?
As medical students, there is some straightforward and important information we can relay to patients to help combat misinformation and confusion about Lyme disease.

Lyme disease is an infection that can be transmitted to people through the bite of an *Ixodes scapularis* tick (aka the blacklegged or deer tick) that is infected with the bacteria *Borrelia burgdorferi*. If the tick is attached for at least 36 hours, the bacteria can be transferred to the person, who can then become infected.

Who is at risk of developing Lyme Disease?
In the United States, most cases of Lyme disease occur in the Northeast (from Maine to Virginia), in the North Central states (primarily Wisconsin and Minnesota), and in the West Coast (primarily northern California).

Individuals of all ages can contract Lyme disease, but children are at particularly at high risk of becoming infected due to their propensity to play outside, and in wooded areas.

As a part of Lyme Corps I have had the opportunity engage in a variety of activities to promote Lyme disease awareness and education. I have written newsletter articles, blog articles, flyers, staffed tables at local farmers markets and hospitals, and conducted a research project in collaboration with the CDC. Through these experiences, I have begun to understand some of the challenges that healthcare professionals face when conducting public health education and outreach, and I have been inspired by how my work has already impacted my community. As a future pediatrician, I feel strongly about the spreading awareness about Lyme Disease in both the community and within the medical profession. The fact that children are at high risk for Lyme disease makes it an especially relevant disease for pediatricians to be familiar with.

If you are interested in learning more about Lyme Disease please check out [this link](http://www.cdc.gov/lyme/stats/humancases.html). Assessed January 15 2016.

Molly Markowitz is a second year medical student at the University of Vermont College of Medicine.
Like most couples expecting twins, the Johnsons dreamed of one day chasing their twin boys around the house. Unfortunately, they were confronted with an unanticipated challenge when one of the twins, Eric, suffered severe brain damage due to recurrent hypoglycemia during his first few months of life. Now three years old, Eric cannot walk, cannot talk, and currently attends a special-needs school. His twin Alex is meeting all of his developmental milestones. Mrs. Johnson recalls, “At six weeks old, Eric was sleeping all the time to the point that everyone, including our daycare, was commenting on it.” At three months of age, Eric was constantly irritable and hungry. The Johnsons knew that something was wrong.

However, each time they brought Eric to his pediatrician, they were told to stop comparing their twin boys. It ultimately took five visits to their pediatrician’s office, a neurology referral, a trip to the ER, and a prolonged stay in the PICU before Eric was finally diagnosed with congenital hyperinsulinism.

Congenital hyperinsulinism (HI) is a heterogeneous disorder of excessive insulin secretion that leads to hypoglycemia with suppressed lipolysis and ketogenesis. Although rare, HI is a prime target for newborn screening because early detection and treatment of HI can fully prevent the brain damage and death associated with hypoglycemia.

Although most infants with HI present within the first month of life, one of the challenges of early detection is distinguishing persistent hypoglycemia from transitional neonatal hypoglycemia that occurs in many normal newborns. Additionally, signs and symptoms of hypoglycemia can be difficult to identify in newborns, and laboratory tests can be invasive, time-intensive, and costly. These factors increase the importance of (Continued)
sound clinical judgment informed by evidence-based guidelines.

In 2015, a Pediatric Endocrine Society (PES) team of experts published recommendations for the evaluation and management of persistent hypoglycemia in neonates, infants, and children. Dr. Paul S. Thornton, lead author of these recommendations, states that the purpose of the guidelines is “to make people understand that although [hypoglycemia] is rare, the consequences are devastating. We wanted to give guidance on who to investigate, when to investigate, and how to investigate....Currently, too many babies with hypoglycemia are being missed.” A summary of the recommendations is outlined below:

- Evaluation of the following infants should be performed:
  - For children who are able to communicate their symptoms: those in whom Whipple’s triad is documented, which includes: signs/symptoms consistent with hypoglycemia, a documented low plasma glucose (PG) concentration, and relief of signs/symptoms when PG concentration is restored to normal.
  - For infants and younger children who are unable to reliably communicate symptoms: those whose plasma glucose (PG) concentrations are below the normal threshold for neurogenic responses (<60 mg/dL). Neurogenic responses are symptoms experienced due to activation of sympathetic discharge in response to hypoglycemia, and may be adrenergic (e.g. tremor, palpitations, anxiety) or cholinergic (e.g. sweating, hunger, paresthesia).
  - For those neonates who are suspected to be high risk of having a persistent hypoglycemia disorder: all should be evaluated at >48 hours of age so that the period of transitional glucose regulation has passed and persistent hypoglycemia may be excluded prior to discharge from the hospital.

- Investigation of the underlying cause of persistent hypoglycemia can include thorough history and physical to detect syndromic conditions, a provocative fasting test, and a critical sample, which refers to specimens obtained at the time of presentation of symptoms but before treatment in order to determine the etiology of hypoglycemia.

- Management of infants with a persistent hypoglycemia disorder should have the following goals:
  - For neonates with a suspected congenital hypoglycemia disorder and for older infants and children with a confirmed hypoglycemia disorder: PG concentration >70 mg/dL.
  - For high-risk neonates without a suspected congenital hypoglycemia disorder: PG concentration >50 mg/dL (age <48 hours) or >60 mg/dL (age >48 hours).

- Practitioners should take an individualized approach to management, with treatment tailored to the specific disorder and with patient safety and family preferences in mind.3
The value of these recommendations lies in their stratification of pediatric patients by risk and their clear treatment goals aimed at preventing neurologic sequelae. Dr. Diva De Leon-Crutchlow, director of the Congenital Hyperinsulinism Center at the Children’s Hospital of Philadelphia, emphasizes, “For these guidelines to be successful, we need to engage the whole medical community, including nurses, general practitioners, family physicians, pediatricians, neonatologists, and medical students, so they are implemented universally.” “It is going to be especially important for students to raise questions based on these new guidelines in their training to change existing behavior,” adds Dr. Charles A. Stanley, fellow co-author.

Mrs. Johnson had the following advice to offer to medical students: “There are probably hundreds of diseases that you study, but don’t forget about the rare ones. HI occurs in 1/50,000 live births. There was no protocol for identifying hypoglycemia [in infants] back then, but if our doctors had even considered the possibility of hypoglycemia early on, we wouldn’t even be in half this mess.” Mr. Johnson adds, “Eric is doing very well in his special-needs school and is exceeding everyone’s expectations. But because of the brain damage that he suffered, we will never know what his true potential could have been....and that, to me, is heartbreaking.”

To learn more about congenital hyperinsulinism, please click here.

Acknowledgements
Drs. Paul S. Thornton, Charles A. Stanley, and Diva De Leon-Crutchlow, pediatric endocrinologists; Julie Raskin, Executive Director of Congenital Hyperinsulinism International, for putting us in contact with the Johnson* family

*Actual names have been altered to respect the family’s privacy.

References:


Mary Barrosse-Antle (left) is a second year medical student at the Perelman School of Medicine at the University of Pennsylvania, and Ngan Kim Huynh (right) is a fourth year medical student at the University of North Texas Health Science Center.

Rare Diseases: A call to action for medical professionals

By Sophia A. Walker

“Hey, LISTEN UP!” declared Dr. Lynne Yao, Director of Pediatric and Maternal Health at the Food and Drug Administration (FDA), as she introduced the Keynote Pediatric Patient Panelists at the National Organization for Rare Disorders (NORD) 2015 Rare Breakthrough Summit. With these words, the tone was set for NORD’s aims to empower the rare diseases community, elevate the voices of patients who have rare diseases, and promote advocacy, research, and education.

I attended this two-day conference because I had been invited to speak on a panel about the importance of rare diseases in medical and professional education. It was a unique opportunity to hear first-hand the challenges and concerns of patients and their families, clinicians, researchers, and government officials overseeing rare disease programs.

As we are often told, patients are our best teachers, and this meeting was no different. From the start, patients candidly – and courageously – voiced their concerns about the lack of effective treatments, the need for more research, and the apparent disconnect between physicians and the struggles their patients face.

(Continued)
Patients advocated for more collaboration among all stakeholders in order to achieve new advancements in treatments. As one proud parent told physicians and industry alike: “We need you in it to win” this fight against rare diseases. More so than anything else, however, was the appeal for physicians to remember to always listen to their patients.

I cannot count the number of times I have heard Dr. Francis Peabody’s famous words quoted: “the secret of the care of the patient is in caring for the patient.” Like many students, I have considered these words several times, but never before has their meaning struck me so significantly as when I faced questions regarding how medical professionals view the goals of medical care and approach relationships with their patients. An audience member remarked that he viewed his care as a partnership between himself and his doctor. And several patients and family members emphasized the importance of the primary care physician as a key member of the medical care team.

Primary Care Initiative, reminded clinicians that when it comes to managing rare and neglected diseases, “If you can’t treat the disease, you can always treat the patient.”

The need for an enhanced perspective specifically regarding rare diseases is evident in recent innovations in drug development, primary care, and medical education. Chiefly, Dr. Janet Woodcock, Director for the Center for Drug Evaluation and Research at the FDA, discussed in her keynote address the recent initiatives furthering patient-focused drug development. Dr. Christopher Austin, Director for National Center for Translational Sciences at the National Institutes of Health (NIH) described how the NIH is incorporating the patient viewpoint in innovative research. On the side of physician education, Dr. Saul discussed new programs incorporating the use of genetics and primary care to educate physicians and expedite early diagnosis of rare disorders. NORD, in partnership with patient organizations, has reached out to medical students and physicians providing new tools for education in rare diseases.

Jono Lancaster – keynote speaker and advocate – shared his experiences as a patient who has a rare disease and highlighted the importance of a (Continued)
positive attitude when forging new paths in medicine. By emphasizing positivity in his speech, Mr. Lancaster reminded all that medicine requires lifelong learning and that as future physicians we must undertake new challenges facing medicine with the very courage our patients continually demonstrate. Therefore, we must embrace this consensus for the need of more patient involvement in every aspect of care from research and drug development to treatment of disease. It is our obligation to take on this responsibility in support of the patients we will one day inherit.

Patients who have rare diseases are significant constituents in that number. After all, one in ten Americans has a rare disease. With the ushering in of these new innovations presented by the speakers, it is apparent that rare diseases will have a strong and growing presence in the future of medicine. Having heard the needs of the rare diseases community and the call to all sectors of healthcare, I eagerly ask my fellow medical students to join me in responding to Dr. Yao, the Pediatric Patient Panel, and all those who have rare diseases:

We’re ready. We’re listening. We’re in this too!

If you are interested in learning more about rare disorders and how you can become involved, please [click here].

Sophia A. Walker is a third year medical student at the University of Connecticut School of Medicine.

Interested in writing for the newsletter?

We are now seeking articles for the Spring Global Child Health Issue!

Email: aapmedstudentnews@gmail.com
A Look Into Diabetes: Through the Eyes of an Adolescent Female

By Robyn Rachesky Torof

My parents and I were born and raised in a small town in Florida. I guess you would say that we’re typical “country folk.” I’ve been told we’ve got a thick southern accent and we certainly love our southern roots. As for me, I’m your average teen girl, at least, I was, until a few years ago.

I first met Dr. Smith on March 21, 2013, the day that my entire life changed in the blink of an eye. . .

It all started months earlier with an ulcer on my face. At first, I thought it was normal for 12-year-old girls; pimples and ulcers are all part of puberty, right? But, when the ulcers started to spread all over my face my mom took me to my pediatrician who gave me antibiotics. The antibiotics helped, but whenever they ran out, the ulcers returned. In addition, to these ulcers, I started to have sinus problems, and I began to feel like I was sick all the time, but I didn’t know why.

Because we live in a small town, going to City Hospital never crossed our minds; we just didn’t think ulcers and sinus problems were an emergency. But on March 21, 2013, my grandfather, who has type 2 diabetes just like my mother, suspected that all this could be due to my blood sugar. He noticed I was also drinking and peeing a lot, even at night.

So, he pricked my finger and put the strip in the glucose meter. What popped up on that tiny display was shocking. My blood sugar was too high for the glucose meter to read! We rushed to City Hospital, where we found out that my blood sugar was 750 and that I was a Type 1 Diabetic! I remember thinking, “how can I be a Type 1 Diabetic?” Up until that point, the only diabetes that ran in my family was Type 2 Diabetes.

Once I learned I was a diabetic, I was introduced to Dr. Smith. Next the City Hospital Diabetes Center taught my family and me the rules that would forever govern my life! At first, I felt overwhelmed by all the information they presented and thought “how am I ever going to remember all these equations?” Even worse, I thought, “Oh, no…I have to remember every detail or I could die!”

The rest of that month seemed surreal. When I think back, it feels like bits and pieces of a dream. It took some time for me to adjust to my new lifestyle, but now carb counting and my correction equations are second nature to me. I rarely need help figuring out the carb ratio of a meal now. I also know the symptoms of hypoglycemia and hyperglycemia.

I’m 14 now and have had diabetes for two years. Looking back, I see how a single drop of blood turned my entire life upside down. At the age of 12, I lost my freedom and my childhood, and I want it back! I want to be a carefree child again. I’m sick and tired of thinking twice about what I eat. I want to eat cake whenever I want and not have to think about the number of carbs or how much insulin I need to inject before I can eat it. I want to hang out with my friends without having to stop and check my blood sugar first. Sometimes I don’t want to check it at all so I can just enjoy being a (Continued)
my psychiatric illness, Dr. Smith told me that anxiety is no excuse for hyperglycemia because hyperglycemia can be controlled with insulin. To get to the bottom of my hyperglycemia, we talked about how, I checked my insulin, and I learned that I had been doing it all wrong! I wasn’t supposed to check it right after eating, I was supposed to wait 1-2 hours after eating to see if the insulin I took before I ate truly worked or not.

Dr. Smith has taught me a lot. He has given me the knowledge and tools that I need to control my hyperglycemia. I was using my anxiety as a crutch for my hyperglycemia and he taught me that anxiety is not an excuse. I still don’t understand why I’m different from my friends, and I’m still angry with my illness. But, I’m also beginning to accept it as I begin to control it. A drop of blood changed my life forever and a drop of blood will forever help me get control of my diabetes.

The story is based on a real patient encounter the author experienced, but names and locations have been changed.

For more information on Type 1 Diabetes, please [click here](#).

Robyn Rachesky Torof is a fourth year medical student at Florida State University College of Medicine.

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Email: AAPMedStudentNews@gmail.com
AAP SOMSRFT
Medical Student Subcommittee:

Ali Mols – Medical Student Subcommittee Chair
West Virginia University School of Medicine
amols@mix.wvu.edu

Aylin Sert – Editor, AAP Medical Student News
University of Massachusetts Medical School
Aylin.sert@umassmed.edu

Gen Guyol – District I Representative
Boston University School of Medicine
genevieve.guyol@gmail.com

Molly Markowitz – District I Asst Rep
University of Vermont College of Medicine
Molly.markowitz@med.uvm.edu

Jonathan Witonsky – District II Representative
Albert Einstein College of Medicine
jonathan.witonsky@med.einstein.yu.edu

Christina Kratlian – District II Asst Rep
Albany Medical College
kratlic@mail.amc.edu

Joshua Davis – District III Representative
Sidney Kimmel Medical College, Thomas Jefferson University
joshua.davis@jefferson.edu

Vinh Nguyen – District III Asst Rep
Howard University College of Medicine
vtn4he@gmail.com

Sarah Maxwell – District IV Representative
Medical University of South Carolina
maxwelsl@musc.edu

Katherine Pumphrey – District IV Asst Rep
Virginia Commonwealth University School of Medicine
pumphreyk@vcu.edu

Rachel Nash – District V Representative
Oakland University William Beaumont School of Medicine
rcnash@oakland.edu

Jared Kusma – District V Asst Rep
University of Toledo College of Medicine
Jared.kusma@gmail.com

Nisha Wadhwa – District VI Representative
University of Chicago Pritzker School of Medicine
nrwadhwa@uchicago.edu

Tracy Marko – District VI Asst Rep
University of Minnesota Medical School-Twin Cities
tmarko@umn.edu

Mina Tahai – District VII Representative
University of Mississippi School of Medicine
mtahai@umc.edu

Jane Jarjour – District VII Asst Rep
Baylor College of Medicine
Jane.jarjour@bcm.edu

Natalie Strokes – District VIII Representative
A.T. Still University School of Osteopathic Medicine, Arizona
nstrokes@atsu.edu

Jennifer Estanilla – District VIII Asst Rep
Touro University Nevada College of Osteopathic Medicine
Do17.jennifer.estanilla@nv.touro.edu

Jennifer Han – District IX Representative
University of California Riverside School of Medicine
jhan037@ucr.edu

Zarah Iqbal – District IX Asst Rep
Stanford School of Medicine
zarah@stanford.edu

Sara Kim – District X Representative
Florida International University Herbert Wertheim College of Medicine
skim044@fiu.edu

Lauren Nelson – District X Asst Rep
University of South Alabama College of Medicine
len1421@jagmail.southalabama.edu

Shirlynn Chu – International Liaison
Ross University School of Medicine
Chu.althea@gmail.com