Chair’s Update
Zora R. Rogers, MD, FAAP

It’s Spring! For most of us that means scrambling to finish the academic year for fellows as well as our own family members, and get ready for the great on-boarding of new colleagues.

The Section on Hematology/Oncology (SOHO) continues to move forward with the elements of our new strategic plan presented in the last newsletter. Section members worked with the SOHO leadership to contribute to a call for public comment from the Foundation for the Accreditation of Cellular Therapy (FACT) regarding the draft FACT-JACIE International Standards for Hematopoietic Cellular Therapy Product Collection, Processing and Administration manual, Seventh Edition regarding the donor advocate standards. In collaboration with ASPHO, SOHO members have continued to review and comment on drafts of policy statements that impact our practices and our patients. We have consulted with the AAP coding staff on the aspects of new procedure codes for lymphocyte infusion and CAR-T cell therapy that should help to ensure appropriate reimbursement for the work we do. Advocacy continues to be a major focus as well. Section leadership and members are engaged with AAP staff to review and provide comments regarding insurer policies including issues related to antihemophilic and clotting factors, use of tisagenlecleucel and the provision of radiologic services for pediatric patients.

All of this work would not be possible without the engagement of you, SOHO members. Dr. Hope Wilson, the Executive Committee Training Fellow Liaison, has written a column that includes other examples of opportunities in education and advocacy. Members are engaged in writing a clinical report on treatment of iron deficiency anemia, a revision of a clinical report on long-term follow up of pediatric cancer survivors, and a revision of clinical and technical reports regarding the evaluation for bleeding disorders in suspected child abuse. Other members have proposed and are working on a parent education article regarding sickle cell trait for the AAP HealthyChildren.org site. We will be excited to share this information with you as they are completed.

So, become informed about areas that interest you, volunteer in an area of interest, or answer a call for nominations (like the current one for the PREP Hematology/Oncology Editorial Board). Comments can be shared with the Editor of this newsletter as well as on the new SOHO collaboration website (AAP login and password required) unveiled in the last newsletter.

As always please let us know what you think!

Zora R. Rogers, MD, FAAP
Chairperson,
Section on Hematology/Oncology
AAP Move to New Headquarters

The AAP moved to its new headquarters in Itasca, Illinois in early December. Our new address and phone numbers are below:

- New Mailing Address: American Academy of Pediatrics, 345 Park Blvd., Itasca, IL 60143
- New AAP Main Number: 630-626-6000
- AAP Toll Free: 800-433-9016
- AAP Customer Service: 866-843-2271
- AAP Main Fax: 847-434-8000

Training Fellow Liaison Column

Hope P. Wilson, MD, FAAP
SOHO Training Fellow Liaison
LSU Health Sciences Center and Children’s Hospital

My name is Hope Pritchett Wilson. I am currently a 3rd year pediatric hematology/oncology (PHO) fellow at LSU Health Sciences Center and Children's Hospital in New Orleans, LA. A native of Alabama, I received my Bachelor of Science degree in Biology from Stillman College in Tuscaloosa, AL. I went on to earn my medical degree from the University of South Alabama College of Medicine in Mobile, AL. In 2012, I completed my pediatric residency training at LSU Health Sciences Center in New Orleans, LA. It is an honor to have the privilege of serving as your Training Fellow Liaison to the section on hematology/oncology (SOHO) Executive Committee.

SOHO was established in 1975. Concisely, its mission is to improve the care of infants, children and adolescents with cancer and hematologic disorders through education (of patients, parents and pediatric physicians) and advocacy. The section currently has over 800 members, including 295 medical students, 67 residents and 86 PHO fellows.

SOHO is instrumental in educating general pediatricians on the management of common pediatric hematologic and oncologic conditions in a variety of ways including assisting with the development and dissemination of clinical practice guidelines and policy statements, review of documents from other groups to provide a pediatric hematology/oncology

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The Section on Hematology/Oncology Executive Committee

Chairperson:
Zora R. Rogers, MD, FAAP

Executive Committee:
Carl Allen, MD, PhD, FAAP
Gary Crouch, MD, FAAP
James Harper, MD, FAAP
Jeffrey Lipton, MD, PhD, FAAP
Cynthia Wetmore, MD, PhD, FAAP
Hope Wilson, MD, FAAP – Training Fellow Liaison

Immediate Past-Chair:
Jeffrey Hord, MD, FAAP

Liaisons:
David Dickens, MD, FAAP
Alliance for Childhood Cancer
Maria Velez, MD, FAAP
Commission on Cancer
Gary Crouch, MD, FAAP
Council on Pediatric Subspecialties

Staff:
Suzanne Kirkwood, MS
Manager, Section on Hematology/Oncology

Journal Production Specialist
Mark A. Krajecki

Statements and opinions expressed in this publication are those of the authors and not necessarily those of the American Academy of Pediatrics or the AAP Section on Hematology/Oncology.
Training Fellow Liaison Column  Continued from Page 2

perspective, programming at AAP sponsored courses, such as the National Conference and Practical Pediatrics and authoring articles in AAP News. Through the AAP Federal Affairs Department, SOHO members are provided opportunities to engage in advocacy projects and campaigns to ensure continued access to care for children. Most recently, AAP/SOHO was vocal in opposing the repeal of the Affordable Care Act, advocating for the renewal of Children’s Health Insurance Plan (CHIP) and supporting senate bill, “Sickle Cell Disease Surveillance, Prevention, and Treatment Act of 2018”. For additional detailed information regarding SOHO and its role within the AAP, please visit our website here.

The principal focus of my term will be to stimulate interest and increase membership among trainees (medical students, residents and fellows) and to recruit participants for the AAP Mentorship Program. As I proceed through my training and prepare for the next step of my career, it is evident to me now more than ever the value of great mentorship. Joining the mentorship program is a great opportunity for early trainees to network with experienced physicians and form lasting relationships while receiving guidance for career development.

The section offers complimentary membership for trainees who are members of the AAP. Fellowship trainee members now have access to PREP subspecialty assessment as an added benefit. As we work to expand trainee membership, we will assess the needs of current trainees (via survey coming soon) in order to ensure a beneficial experience. I encourage all interested trainees to take advantage of these valuable resources and join today.

Procrastinate no more! Updates and new options for MOC

Virginia A. Moyer, MD, MPH, FAAP
Vice President, MOC and Quality
American Board of Pediatrics

The American Board of Pediatrics (ABP) has made significant changes to its Maintenance of Certification Program (MOC) over the past several years, working to make the ongoing certification process more efficient and effective for pediatricians. Many changes grew from collaboration with diplomates who believe in the benefits of certification and ongoing assessment and, want to help improve the process. The ABP recognizes that pediatricians engage in a wide variety of learning and improvement activities that meet ABP standards, and the board has implemented more ways for pediatricians to claim credit for activities they already are doing and incorporate the key parts of MOC into their daily work.

For example, Life-Long Learning and Self-Assessment (Part 2) credit may be claimed for many CME activities that meet ABP standards through a collaboration between the ABP and the Accreditation Council for Continuing Medical Education (ACCME). To date, more than 2000 CME activities registered with ACCME now offer ABP MOC Part 2 credit, including the 2017 ASCO meeting. The credit is documented by the CME provider within a few weeks of completion of the activity and automatically entered into the diplomate’s portfolio, so diplomates need not submit any documentation to the ABP.

The secure MOC examination for assessing cognitive knowledge to maintain certification is also undergoing major change. With the help of more than 5,000 pediatrician volunteers, the ABP began pilot-testing a new assessment approach in January 2017; the pilot continues in 2018, now with the participation of an additional 6,000+ pediatricians. MOCA-Peds (Maintenance of Certification Assessment for Pediatrics) delivers up to 20 questions electronically each quarter directly to participants via their computer or mobile device, to be answered at any time during the quarter. While diplomates cannot discuss the questions at any time with others, they are welcome to use resources (internet, books, etc.) as they work through the assessment. MOCA-Peds combines assessment with learning, as pediatricians find out immediately whether their answer was right, and get an explanation of the correct answer as well as relevant references.

The 2017 pilot demonstrated that MOCA-Peds provides a reliable measure of the knowledge that a pediatrician should possess and was very positively received by participants. During 2018, the program will be refined and the first subspecialty MOCA-Peds modules will be developed. As a result of the successful pilot, beginning in 2019, MOCA-Peds officially will become one way to fulfill the MOC Part 3 requirement. Participation in MOCA-Peds will be synchronized with each

Continued on Page 4
The table below summarizes the changes that have occurred since 2012:

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<tr>
<th>2012</th>
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<tr>
<td><strong>Requirements:</strong></td>
<td><strong>Requirements:</strong></td>
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<tr>
<td>• 40 points Lifelong Learning and Self-Assessment (Part 2)</td>
<td>• 40 points Lifelong Learning and Self-Assessment (Part 2)</td>
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<td>• 40 points Practice Improvement (Part 4)</td>
<td>• 40 points Practice Improvement (Part 4)</td>
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<td>• 20 additional points from either category</td>
<td>• 20 additional points from either category</td>
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<td>• Pass the MOC exam in a secure testing center once every 10 years</td>
<td>• Participate in MOCA-Peds quarterly web-based assessment with a</td>
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<td>passing score OR pass the MOC exam at a secure testing center every 5 years</td>
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<td><strong>Resources for Lifelong Learning and Self-Assessment:</strong></td>
<td><strong>Resources for Lifelong Learning and Self-Assessment:</strong></td>
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<td>• ABP-provided activities</td>
<td>• ABP-provided activities</td>
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<td>• AAP PREP</td>
<td>• Online activities from AAP and other organizations</td>
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<td>• Limited other choices</td>
<td>• More than 2000 qualifying CME activities registered through ACCME</td>
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<td>that earn MOC credit automatically upon successful completion</td>
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<td><strong>Resources for Quality Improvement Activities:</strong></td>
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<td>• Web-based activities from other organizations</td>
<td>• AAP Pedialink QI</td>
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<td>• AAP Quality Improvement Innovation Networks (QuIIN)</td>
<td>• Web-based activities from other organizations</td>
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<td>• AAP’s Chapter Alliance for Quality Improvement (CAQI), specifically the Chapter Quality Network (CQN)</td>
<td>• Collaborative networks</td>
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<tr>
<td>• Small number of collaborative networks</td>
<td>• Application process for practice improvement projects undertaken by solo or small groups of pediatricians. Guidance is available to help structure the project to be eligible for MOC credit</td>
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<td></td>
<td>• Similar application process for larger projects often sponsored by organizations</td>
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<td></td>
<td>• AAP Quality Improvement Innovation Networks (QuIIN)</td>
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<tr>
<td></td>
<td>• AAP’s Chapter Alliance for Quality Improvement (CAQI), specifically the Chapter Quality Network (CQN)</td>
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<td>• Growing number of institutions (including the AAP) who sponsor their own portfolio of MOC-eligible quality improvement activities</td>
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<td>• Part 4 credit offered to program directors, faculty, residents and fellows who engage in quality improvement to address areas that were identified during the program’s annual program evaluation or the self-study</td>
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<td>• Institutional leaders, including department chairs, chief quality officers or directors of public health departments, who develop and lead substantial health care quality initiatives in an organization, may apply for Part 4 credit</td>
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<td>• Residents can “bank” MOC Part 4 points they earn during training</td>
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<tr>
<td><strong>Information available on the website and through generalized emails timed to coincide with yearly deadlines</strong></td>
<td><strong>Redesigned website with improved access to information. Redesigned landing page when pediatricians log into their own portfolio. Improved search function. MOCAM site for more in-depth information and applications for available activities. Personalized email with addressee’s personal progress toward requirements. Social media presence, including ABP Blog. Video guides/instructions. Use of ABP logo encouraged to recognize certified pediatricians.</strong></td>
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<tr>
<td><strong>Pay all fees up front at the time of enrollment in a 5-year MOC cycle</strong></td>
<td><strong>Choose to pay all fees at the beginning of an MOC cycle, or choose a prorated annual payment option.</strong></td>
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*Continued on Page 5*
diplomate’s 5-year MOC cycle with questions delivered for the first 4 years (16 quarters) of the 5-year MOC cycle. To accommodate for life circumstances, the four lowest-scoring quarters will be dropped in each 5-year MOC cycle and won’t count against the overall score.

MOCA-Peds for subspecialties will be rolled out over 4 years starting in 2019; during the roll out, each diplomate’s MOC exam requirement will be deferred until MOCA-Peds is available in the diplomate’s subspecialty area. MOCA-Peds for Hematology-Oncology will launch in 2022 and will include the flexible focus that has been so well received in the secure MOC exam. This means that a diplomate who continues to pass MOCA-Peds will never have to take a proctored exam at a secure testing center again to maintain certification. A diplomate who prefers a secure exam, or one who is not passing MOCA-Peds by the end of Year 4 of the 5-year MOC cycle, can sit for the secure exam instead. MOCA-Peds will be included in the cost of MOC enrollment; there will be an additional seat fee (the cost related to the testing center) to take the secure, proctored exam.

Other significant changes have been made to the practice improvement requirement (Part 4), which supports pediatricians’ efforts to measure the quality of their care, adopt improvements in practice that have been proven successful by their peers, and then measure their success in their own practice. The ABP encourages pediatricians to work locally and create QI projects applicable to their own practices, using a short (recently improved) form to apply to the ABP to claim MOC credit. Working to improve any process that is intended to improve the health of children (including improvements in medical education and in research), can earn Part 4 credit. For example:

- Meeting the MOC requirements of other certifying boards.
- Being meaningfully involved in QI projects as part of earning NCQA PCMH/PCSP certification,
- Engaging in QI to address areas that were identified during a training program’s annual Accreditation Council for Graduate Medical Education (ACGME) evaluation or self-study.
- Contributing to improved health care quality through institutional quality improvement leadership.
- Participating in an institution’s approved QI projects and in many improvement networks and collaboratives.

In addition, more than 130 institutions and organizations, such as the AAP, are designated as Portfolio Sponsors by the ABP or the American Board of Medical Specialties (ABMS). Portfolio Sponsors award Part 4 credit to diplomates who participate in the portfolio’s approved QI projects.

The ABP is also working to improve enrollment and payment processes. It has long frustrated and confused diplomates that the 5-year MOC cycle and the 10-year exam cycles were not synchronized, and diplomates could only pay for their MOC cycles with a large payment at the time of the 5-year enrollment, with additional payments later if they desired to take additional exams. With MOCA-Peds, the ABP is in the process of aligning those cycles. Beginning in January 2018, diplomates who are re-enrolling in MOC have the choice of paying the MOC fee on an annual basis rather than in a lump sum every five years, with the cost of exams for each certification folded into a single prorated amount. The annual MOC re-enrollment fee compares favorably with other professional fees (e.g., society dues or CME activities). The ABP has not raised fees in several years.

The day to day work of the ABP is done by more than 350 pediatricians, all of whom are meeting MOC requirements. We invite pediatricians who want to support the certification process to nominate themselves for an appointment to a subspecialty Sub board.

**Call for Nominations:**

**PREP Hematology/Oncology Editorial Board – Date Extended**

Seeking AAP Fellows with an interest in education and proven writing skills to contribute to this important program. Members write about 12 multiple choice questions and the associated teaching critique every year and meet for a 2-day peer review session semi-annually at AAP Headquarters. Writers with a career focus on practical, general...
clinical pediatric oncology are particularly needed. Authors improve their own knowledge of the field through peer-review discussions about how care is provided at other institutions and what interventions can be supported with published experience as well as enjoy a supportive environment in which to further develop their written teaching skills.

PREP Editorial Board members receive national recognition and are personally recognized by Academy leadership for their service on a scholarly committee. Additionally, members receive complimentary access to their self-assessment program as well as MOC part II leadership points.

A nominee must submit a completed and signed PREP Subspecialty Board Nomination Fact Sheet, a current CV, a completed AAP Full Disclosure Statement, and a writing sample. The writing sample should be a case-based question and critique, 1-2 typed pages, which has not been published or edited by others. Please be sure to complete the fact sheet in full, including the certification statement on the third page. All materials must be sent electronically. Email attachments should be in MS Word or PDF format. The fact sheet and disclosure form are attached and the job description and CME disclosure policy can be accessed below:

- [PREP SUBSPECIALITY - Job Description](#)
- [PREP SUBSPECIALITY - CME Disclosure Policy](#)

Nominees should e-mail materials to prepnominations@aap.org. If you have any questions, please contact Lisa Donato at ldonato@aap.org. The deadline for receipt of nomination materials is **Monday, April 30, 2018**.

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**Focus on Global Health:**

**Critical Need for Focus on Pediatric Hematology and Oncology in Sub-Saharan Africa**

Joseph Lubega MB ChB, MPH*

In low- and middle-income countries, cancer is responsible for more childhood deaths than malaria, tuberculosis, and HIV combined¹. The cancer burden is particularly heavy across sub-Saharan Africa (SSA), where approximately 100,000 children are affected each year.¹ Currently, 90% of these children die² due to lack of a proper diagnosis, unavailability of needed anti-cancer medications, and inadequate healthcare infrastructure. In particular, there is a near-complete absence of trained pediatric hematology-oncology (PHO) specialists in this area of the world, further compounding the problem. In contrast, the 15,000 U.S. children who develop cancer each year have >80% chance at survival due to protocols established through cooperative clinical trials, advanced acute pediatric care, and specialized PHO care.³

The crisis surrounding childhood cancer in Africa has gained the attention of major global organizations, including the United Nations. In 2015, the UN published their Sustainable Development Goals (SDGs): 17 goals designed to end poverty, protect the planet, and ensure prosperity for all. Goal 3⁴ involves objectives related to improving global health and pediatric survival and treatment of non-communicable diseases (such as cancer and blood disorders). The incredible disparity in patient survival, along with rationale from the global initiatives taken by the UN and its member states, led to the development of Global HOPE, a unique initiative to improve pediatric cancer and hematology care in the underserved countries of SSA.

**Focus on PHO training for the African healthcare workforce.** Currently, there are fewer trained PHO medical specialists in entire countries in SSA than in most U.S. children's hospitals (e.g. three in Uganda, one in Malawi, two in Tanzania). Recognizing the need to improve the sub-specialty medical workforce, the East African Community, six countries surrounding Lake Victoria: Uganda, Tanzania, Kenya, South Sudan, Burundi, and Rwanda, embarked on a strategy to focus resources for building capacity in subspecialties of non-communicable diseases in each country, with Uganda assigned to Oncology. With a loan from the African Development Bank, the Republic of Uganda created the East African

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Focus on Global Health:  

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Center of Excellence at Uganda Cancer Institute in partnership with Baylor College of Medicine/Texas Children’s Cancer and Hematology Centers, the Ministry of Health – Republic of Uganda, Makerere University College of Health Sciences, and Mulago National Referral Hospital. This established the first structured and comprehensive PHO fellowship in SSA – the East Africa Pediatric Hematology and Oncology Training program, which is coordinated through Global HOPE. Other partners in this effort are Baylor College of Medicine Children’s Foundation-Uganda, the non-governmental organization affiliate of BIPAI5 and Bristol Myers Squibb Foundation. This two-year PHO fellowship training program, which is formally training African pediatricians to be PHO specialists, began in September 2016, with its first class of four Ugandan PHO fellows. In September 2017, a second class of four fellows, which also includes pediatricians from Kenya and Tanzania, were selected from an applicant pool of 14 pediatricians from six countries in SSA; the applicant pool has quickly grown to 31 pediatricians in 2018.

As a discipline, PHO may be described as “the rising tide that raises all boats” because optimal PHO care requires a very high level of multi-disciplinary care. Therefore, Global HOPE is already involved in training of pediatricians, nurses, pharmacists, and those in other pediatric subspecialties important for providing optimal PHO care (e.g. surgery, critical care, radiology, pathology, palliative care). Although in its infancy, the East Africa PHO Training Program is already having significant impact: where previously >80% of the 500 children diagnosed with cancer in Kampala died or abandoned care within 1 month, >80% are now alive and receiving care, with >50% alive at 1-year post-diagnosis. With approximately 7,000 new cancer diagnoses and 35,000 children born with sickle cell every year in Uganda alone, the East Africa PHO Training Program will improve many thousands of lives in Uganda alone. The emerging cadre of formally trained PHO physicians will positively affect care of children with pediatric cancer and blood diseases throughout SSA, with the hope of ultimately achieving survival rates for children in SSA equivalent to those in the United States and Europe.

References:
5. Baylor International Pediatric AIDS Initiative

*On behalf of East Africa PHO Training Program leadership, including East Africa Oncology Center of Excellence at Uganda Cancer Institute, Texas Children's Cancer and Hematology Centers, Global HOPE, Makerere University College of Health Sciences, Mulago National Referral Hospital, BIPAI, Bristol Myers Squibb Foundation.

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AAP Names Senior Vice President of Global Child Health and Life Support

Janna Patterson, M.D., M.P.H., FAAP comes to the AAP from the Bill & Melinda Gates Foundation where she is a senior program officer with the Maternal, Newborn, and Child Health team. Visit AAP News for more information on Dr Patterson and her role within the AAP.

The latest edition of the AAP Academic and Subspecialty Advocacy Washington Report is now available. The report details the important advocacy work that the Academy is engaging in and highlights issues of particular importance to medical and surgical subspecialty pediatricians. The report includes updates on AAP advocacy efforts to protect Medicaid, extend the Children’s Health Insurance Program, promote pediatric subspecialty workforce issues, increase funding for pediatric research, protect children from gun violence, and improve drugs and medical devices for children, among many other issues.

Advocacy in Action – How to Engage in Advocacy at the AAP

Grassroots Advocacy: AAP Key Contact Program
Key Contacts are AAP members who are interested in receiving advocacy opportunities and timely policy updates from the AAP Washington Office on federal legislation and other issues important to the Academy.

Through regular email communication with specific requests for action, the Washington Office keeps Key Contacts informed of the latest legislative developments affecting children and pediatricians.

How to Become a Key Contact
Email kids1st@aap.org with your name, AAP ID if known, and your preferred email address. If you have questions about federal advocacy, contact the AAP Washington Office at 202-347-8600.

FederalAdvocacy.aap.org: Online Resource Center
Visit the AAP Federal Advocacy website at FederalAdvocacy.aap.org to find resources and tools, including:

- Contact and biographical information for your federal legislators.
- An Action Center where you can call and email federal legislators directly on current federal child health policy priorities.
- A media center where you can read recent opinion pieces written by pediatricians.
- Background information on current AAP federal child health issues advancing in Congress. Highlight the importance of pediatric research with a thank you note to your members of Congress each time you are awarded a federal grant.

Engage in Advocacy on Timely Federal Policy Issues
The AAP offers many opportunities to engage in advocacy and shape the federal policymaking process. Through all-member communications, the AAP encourages members to contact their representatives regarding specific issues that are important to children and families. The Academy has had great success engaging AAP chapters, sections, committees and councils to mobilize in response to multiple concerning proposals to radically restructure the Medicaid program and eliminate crucial patient protections put in place by the Affordable Care Act (ACA). The pediatrician voice was key in emphasizing the importance of Medicaid for children.

The Academy also engages in advocacy focused on the needs of subspecialists. Currently, the AAP is working with federal policymakers to address critical shortages of pediatric subspecialists that cause too many families to delay needed care for their children or go without it altogether. Two current legislative efforts that the AAP has been actively involved in developing and championing would address the financial barriers that cause some pediatricians to forgo a career in subspecialty pediatrics. In October, the Academy organized a coalition of over 50 subspecialty societies to write to the sponsors of these bills in support of both of these efforts.

SOHO members were offered a specialized opportunity to contact their representatives in Congress to advocate for the Childhood Cancer STAR (Survivorship, Treatment, Access and Research) Act this past summer. Watch for opportunities to do so again in 2018.

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**Engage with AAP on Social Media**

Social media is a powerful tool that allows pediatricians to communicate with fellow child health advocates and moderate online discussions around priority child health topics. Social media also gives the opportunity for pediatricians to communicate with other audiences such as parents, news media, and politicians. As a pediatrician, Twitter also offers you the opportunity to be part of a community that encourages the exchanging of ideas around child health, while not being constrained by time or geography.

AAP values the authentic and credible voice to child health conversations pediatricians provide on social media. AAP has built a network of pediatricians who are on Twitter, known as #Tweetiatricians, who regularly interact with the AAP, fellow pedestrians, and the public. This includes opportunities to engage with federal policymakers directly by amplifying information that matters in crafting policy that meets the needs of children.

To stay up-to-date on child health news, follow and engage with AAP on social media via @AmerAcadPeds, @AAPPres, @AAPNews, @healthychildren and @AAPExperieNCE. You can also subscribe to AAP’s official #tweetiatrician list on Twitter by visiting https://twitter.com/AmerAcadPeds/lists/tweetiatricians. Request to be added to the list by emailing AAP’s social media community manager, Helene Holstein, at hholstein@aap.org.

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**CoPS Updates**

Dr. Gary Crouch serves as the AAP Section on Hematology/Oncology Liaison to the Council on Pediatric Subspecialties (CoPS). You can view the January, 2018 CoPS update and additional information about CoPS on their website.

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**Tech Tip Double Feature:**

**American Society of Hematology (ASH) Pocket Guide App**

Did you ever wonder how many nosebleeds and what size bruises are abnormal enough to warrant a hematology consult? The American Society of Hematology updated the “ASH Pocket Guides” which is a free downloadable App to add a calculator for the Bleeding Score (numerical answer to the question above).

The app or the web-based version also has:

- Iron Replacement Dosing calculator
- Calculator for Factor VIII Dosing for Hemophilia A
- Calculator for Factor IX Dosing for Hemophilia B
- Calculator for RBC Exchange Transfusion

It also has plus several evidence-based pocket guides and other information at your fingertips.

- Sickle Cell Disease management
- von Willebrand Disease management

**Blood Myth - Educating about Sickle Cell Disease through Gaming**

*This is a mobile game dedicated to raising awareness of sickle cell disease and re-educating teens suffering from this genetic illness about self-care measures to prevent pain crisis. It is free of charge. Check out the 2-minute overview on the website!*

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Tech Tip Double Feature: Continued from Page 9

In this feature we highlight various technologies that have been developed to assist pediatric hematology/oncology patients with their care and pediatric hematology/oncology physicians in caring for their patients.* If you have a tech tip that you would like to be shared in future editions of the newsletter, please send them to: Suzanne Kirkwood at skirkwood@aap.org

*Inclusion of this information within this communication does not represent endorsement of the product by the AAP or the Section on Hematology/Oncology, but is being shared as an information only.

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Hot Papers in Pediatric Hematology/Oncology

Reviewed by: Mary Jane Staba Hogan, MD, FAAP, Assistant Clinical Professor, Pediatric Hematology Oncology, Yale University School of Medicine, New Haven, Connecticut.


Investigators from multiple international institutions led by Children's Hospital of Philadelphia conducted a global, phase 2, single cohort, nonrandomized efficacy trial with a single infusion of tisagenlecleucel (CTL109, an anti-CD19 chimeric antigen receptor T-cell therapy) in 75 children and young adults with CD 19+ relapsed or refractory B-cell acute lymphoblastic leukemia (ALL). The median age of participants was 11 years (range 3 to 23). They had a median of 3 previous treatments (range 1 to 8) with 61% having had a prior allogeneic hematopoietic stem cell transplant.

At 3 months, the overall remission rate was 81% with negative minimal residual disease by flow cytometry. At 6 months, event-free survival was 73% and overall survival was 90%, while at 12 months, these rates were 50% and 76%, respectively. The median duration of remission was not reached. Tisagenlecleucel was evident in the blood for up to 20 months. Mostly reversible, grade 3 or 4 toxicities occurred in 73% of patients. The cytokine release syndrome occurred in 77% of patients, neurologic toxicities occurred in 40% of patients, and no cerebral edema was reported. A high rate of durable remissions after a single infusion of tisagenlecleucel and intensive, supportive care in children and young adults with high risk B-cell ALL is a promising therapy when feasible.


Investigators from multiple U.S. institutions led by National Institute of Health conducted a phase 1, nonrandomized efficacy trial with CD22-targeted CAR (chimeric antigen receptor T-cell therapy) in 21 children and adults with CD22+ relapsed or refractory B-cell acute lymphoblastic leukemia (ALL) of whom 17 were resistant to prior CD19-targeted immunotherapy or CD19-CAR. (Ten of whom were now CD19negative.) The median age of participants was 19 years (range 7 to 30). They had all had at least one prior allogeneic hematopoietic stem cell transplant.

The median duration of remission was 6 months, and 73% of patients achieved complete remission with a dose $\leq 1 \times 10^6$ CD22-CART cells per kg body weight. At 1 month, CD22-CART cells were detectable in blood and marrow in 15 patients, and remained detectable in the blood of 7 of 9 patients at 3 months post-infusion, in 2 of 3 patients at 6 months, and in one at 9 months and one at 18 months. The cytokine release syndrome occurred in 16 of 21 patients, neurologic toxicities occurred in 6 of 16 patients who had complete assessments. Relapses correlated with reduced CD22 site density on the leukemia cells which the authors speculate helped these cells escape CD22-CAR detection. Clinical trials using CD19 -CD22-specific CAR are being explored due to the lessened expression of these proteins after exposure to each individual immunotherapy separately.


In a retrospective cohort study, investigators analyzed 428 primary medulloblastoma samples collected from children

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Seven reproducible primary molecular subgroups of childhood medulloblastoma were identified. WNT remained unchanged from previous studies (typified by *CTNNB1* mutations, loss of chromosome 6) with a favorable prognosis (>90% survival) while each remaining subgroup (SHH, Group 3 (Grp3) and Group 4 (Grp4)) were each split in two. SHH was split into age dependent subgroups corresponding to infant (<4.3 years; SHH-Infant; n=65) and childhood patients (≥4.3 years; SHH-Child; n=38) by absence or presence of metagene V4, respectively, and intermediate prognosis (5-yr survival 58% and 62% respectively). Grp 3 and Grp 4 were each split into high-risk (Grp3-HR; n=65 and Grp4-HR; n=85) with 5-yr overall survival 37% and 69%, respectively, and low-risk (Grp3-LR; n=50 and Grp4-LR; n=73) subgroups with 5-yr overall survival 69% and 80%, respectively. In the patients aged 3–16 years at diagnosis and receiving craniospinal irradiation, the high-risk or low-risk subdivision of Grp3/4 stratifies this group by 5-year progression free survival rates into standard (Grp3-LR 81%, Grp4-LR 81%) and high-risk (Grp3-HR 35%; Grp4-HR 47%). In addition, other secondary clinicopathological and molecular features with established disease risk-factors, outperformed existing disease risk-stratification strategies. The hope is that these seven novel, clinically significant subgroups will improve disease risk-stratification to inform treatment decisions and provide a new basis for future clinical investigations.


Investigators from multiple German institutions analyzed the germline and somatic mutations from whole genomes or whole exomes across 491 sequenced medulloblastoma samples from untreated patients (median age 8 years) and the molecular heterogeneity among 1,256 epigenetically analyzed cases, to identify subgroup-specific driver alterations as potential therapeutic targets. For both Grp 3 and Grp 4 medulloblastoma subgroups, new molecular subtypes revealed hotspot in-frame insertions that targeted *KBTBD4*, a ubiquitin ligase adaptor, and ‘enhancer hijacking’ events that activated *PRDM6*, a histone methyltransferase. The application of integrative genomics to an extensive cohort of clinical medulloblastoma samples revealed a series of cancer genes and biologically relevant subtype diversity that represent potential therapeutic targets for medulloblastoma.

Gadd S, et al. A Children's Oncology Group and TARGET initiative exploring the genetic landscape of Wilms tumor. *Nature Genetics*. 2017;49 (10) 1487-1494. [http://dx.doi.org/10.1038/ng.3940](http://dx.doi.org/10.1038/ng.3940)

Investigators from the Children's Oncology Group performed genome-wide sequencing and analyzed mRNA and miRNA expression, DNA copy number, and DNA methylation in 117 Wilms tumors, followed by targeted sequencing of 651 Wilms tumors. In addition to genes previously implicated in Wilms tumors (*WT1, CTNNBI, AMER1, DROSHA, DGC88, XPO5, DICER1, SIX1, SIX2, MLLT1, MYCN, and TP53*), they found mutations not previously known in Wilms tumors, the most frequent being *BCOR, BCORL1, NONO, MAX, COL6A3, ASXL1, MAP3K4,* and *ARID1A*. DNA copy number changes resulted in recurrent 1q gain, *MYCN* amplification, *LIN28B* gain, and *MIRLET7A* loss. Unexpected germline variants involved *PALB2* and *CHEK2*. Integrated results support two major genetic changes that either preserve the progenitor state as regulated by miRNA biogenesis and/or interrupt normal renal development by transcriptional elongation. The authors hope that future clinical studies focus more on these common pathways than on the individual mutations.


Investigators from the Dana Farber Cancer Institute, among other Boston, MA institutions used a pooled, loss-of-function *in vivo* CRISPR–Cas9 genome editing approach to screen 2368 genes expressed by melanoma cells to identify mutations that enhance responsiveness or resistance to immunotherapy (checkpoint blockade) in a mouse transplatable tumor model. They confirmed the known immune evasion molecules PD-L1 and CD47, as well as defects in interferon-γ signaling causing immunotherapy resistance. Tumors were sensitized to immunotherapy by deletion of genes involved in NF-κB signaling.
signaling, antigen presentation, and the unfolded protein response. Deletion of the protein tyrosine phosphatase PTPN2 in tumor cells increased immunotherapy efficacy by increasing interferon-γ-mediated effects on antigen presentation and tumor suppression. Prior genome editing studies have concentrated on identifying genes needed to promote tumor growth, metastasis, and drug resistance. This study used in vivo genetic screens in mouse tumor models to explain interactions between cancer and the immune system in hopes of identifying new immunotherapy targets.

Compendium Helps Pediatricians Implement Telehealth Visits into Practices

The AAP has developed a telehealth compendium, an online resource that offers general information and technical support for pediatricians who want to incorporate telehealth services into their practices. Learn how to get started offering patient visits, identifying coding, and quality improvement and evaluation. This resource also includes template documents and most recently added a searchable directory of telehealth programs. For more information on telehealth, join the AAP Section on Telehealth.

Free Bioethics Teaching Guides Updated and Available Now

The AAP Section on Bioethics and Committee on Bioethics announce the release of the second edition of “Bioethics Case-Based Teaching Guides for Resident Training.” This case-based modular curriculum offers 20 different sessions to assist pediatric faculty and trainees develop foundational competencies in bioethics. It is free, and members are encouraged to share.

AAP News Highlights

Can genomic data be used to individualize cancer treatment
AAP endorses screening guidelines for retinoblastoma
AAP Board takes bold steps: adds 3 director seats, clinical data registry
Updated policy reaffirms value of public over private cord blood banks
Updated policy offers guidance on infection prevention, control in ambulatory settings

Welcome to Our New Members

If you know of others who might be interested in joining the Academy and the Section please refer them to the AAP website membership page. Thank you to all who have continued to support the AAP and the Section by renewing their memberships. And welcome to new members of the Academy and the Section!

For Upcoming Newsletters . . .

We welcome your input and encourage you to submit ideas or information by email to Carl Allen, MD, FAAP at ceallen@txch.org or Suzanne Kirkwood at skirkwood@aap.org for future issues of the newsletter.