Chair’s Update
Cynthia Wetmore, MD, PhD, FAAP

Dear Colleagues,

Wishing everyone a Happy Spring and hoping that things may start to feel more ‘normal’ for all. While the COVID-19 pandemic continues, I want to thank all of you in your efforts to educate patients and their families regarding the benefits of the vaccine and getting vaccinated. It is a challenging but also rewarding time to be in healthcare and I hope that you all practice self-care as well.

I would like to acknowledge the planning being done by our executive committee training fellow liaisons, led by Irtiza Sheikh, DO, FAAP and Ann Marie Mojica, MD, FAAP in their work to better engage trainees in the work of the section. There was a trainee subcommittee call for volunteers sent out this past spring and there will be more to come on members of the subcommittee and their activities. Please encourage your trainees to look into opportunities to serve on national committees as it can have a significant impact on their sense of community and career advancement. Irtiza and Ann Marie have also volunteered to participate in mentored reviews of draft policy and other documents. Please see their interesting article regarding advocacy in this edition of the newsletter.

We also want to thank our volunteers who ran for national election to serve on the SOHO Executive Committee. Congratulations to David Dickens, MD, FAAP and Anne Warwick, MD, FAAP who were elected to serve their second, three-year term on the Executive Committee. We also congratulate Suvankar Majumdar, MD, FAAP who has been elected to serve a three-year term beginning on 11/1/22. Carl Allen, MD, FAAP will complete his term on the executive committee on 10/31/22 and will have served for 6 years. Thank you, Carl, for your service and leadership on both the executive committee and the communications subcommittee!

Please note that we have resources online, including one about the recent clinical report by Melissa Hudson, MD, FAAP: “Long-term Follow-up Care for Childhood, Adolescent and Young Adult Cancer Survivors.” I encourage sharing this with trainees and general pediatric colleagues.

The SOHO EC has been working to update the mission statement, below. We welcome your engagement and feedback.

**Current Mission:** The mission of the Section on Hematology/Oncology (SOHO) is to educate the pediatric...
practice community and families about pediatric hematology/oncology conditions, make recommendations concerning the health care needs of these patients, and advocate for those who provide and require the care regardless of geographic or economic barriers.

Updated Mission: To promote the health and well-being of children affected by cancer and blood disorders through policy, education and advocacy for patients and their providers, with a commitment to address overt and implicit biases at the personal, systemic, and structural levels which interfere with equitable care for all children.

As we communicate with our teams and patients, I would like to highlight a recent publication and podcast that highlights how unintentional bias can impact the quality care we all strive to provide. (The Weight of Our Words: How Medical Communication Perpetuates Bias) and podcast: https://publications.aap.org/pediatrics/article/doi/10.1542/peds.2021-054296/184666/The-Weight-of-Our-Words-How-Medical-Communication

Thank you for your engagement and inspiration in our mission to promote the well-being of children affected by cancer and blood disorders. We encourage your participation and look forward to being together in person in the future.

With much appreciation and warm regards,

With my best regards,
Cynthia Wetmore, MD, PhD, FAAP
Chairperson, Section on Hematology/Oncology
cwetmore@neoleukin.com

P.S. We value your feedback in order to provide content of interest and improve the newsletter. Please complete a brief survey that should take just a few minutes of your time.

Training Fellow Liaison Column:

Importance of Advocacy in Pediatrics:
How Can I Get Involved?

Ann Marie Mojica, MD, FAAP
Pediatric Hematology/Oncology Clinical Fellow
The University of Utah, Primary Children's Hospital

and

Irtiza Sheikh, DO, FAAP
Pediatric Hematology/Oncology Clinical Fellow
University of Texas MD Anderson Cancer Center

In this section, we will highlight the importance of advocacy as we know it, describe our personal journey to advocacy involvement and present unique examples of advocacy endeavors our colleagues have undertaken.

What is Advocacy?

Advocacy, as it relates to the American Academy of Pediatrics (AAP) and us, as pediatricians, is a broad term that “represents actions that promote child health and welfare on a population level.” It is a term that encompasses a collective endeavor to ensure that pediatricians play a role in speaking out on behalf of their patients and their families on a local, state, and national level. Advocacy is an action that involves the teamwork of a variety of members outside the physician, including policymakers, public health experts, and all those involved in the well-being of a child.
Where does the AAP stand on advocacy topics?

The AAP is involved in a wide variety of areas that address the health of children and adolescents! Examples of advocacy issues on which the AAP has been at the forefront include healthcare access and coverage, ensuring that children have the ability to obtain high-quality and affordable healthcare; immigrant child health, and speaking out against cruel policies that harm the physical and mental well-being of children brought to this country for a better life, regardless of their nationality or country of origin; and, climate change, to push for policies that address our environment and understand the detrimental role that environmental hazards have on the development of our children.

How did we get involved?

Irtiza: Coming into medical school, I had little to no experience in advocating on behalf of my community. However, I knew that as an immigrant and first-generation medical student from a lower middle-class background, my initial concerns were that of an affordable medical education and policies that would ensure I would have a residency and a source of income following medical school. Through organizations such as the Texas Medical Association (TMA), American Medical Association (AMA), and the Texas Osteopathic Medical Association (TOMA), I found a community that supported me in reaching out to policymakers at the state and federal level, in order to discuss the issues faced by medical students when financing their education and difficulty finding post-graduate openings in their home state due to Graduate Medical Education (GME) funding shortages. Through these endeavors and with the support of fellow medical students and leaders at these organizations, I was encouraged to pursue other topics that interested me including immigrant health and Medicaid expansion for children. The momentum and thrill that comes from speaking out on behalf of my community, while making lifelong friends with a drive to improve our surroundings, has been a motivator to remain committed in advocacy efforts.

Ann Marie: Prior to my journey through medicine, my experience in advocacy came through the Women, Infants and Children (WIC) program where I worked as a nutritionist for two years. An important part of my job was to promote the health of the children and families I encountered, the definition of advocacy, though I cannot say that I considered myself an “advocate” at the time; my scope of advocacy and what it entailed was limited then. Once in pediatric residency, an extraordinary mentor taught me that anyone can be an advocate and that advocacy is an inherent quality of a pediatrician. When provided with the proper tools, we can accomplish so much when it comes to promoting the health, growth and safety of our children. I vividly recall my first experience advocating during one Texas Pediatric Society Advocacy Day, where together with co-residents and medical students, we stood before senators (or their representatives) and advocated for proper funding of programs including CHIP Medicaid and Early Childhood Intervention (ECI). The skills and lessons I learned during Advocacy Day were carried forward into my chief resident role during preparation and facilitation of resident didactic sessions, “The Pediatrician’s Role in Advocacy: Education, Empowerment and Action,” and later “Building Your Advocacy Toolkit.” In teaching others about advocacy, I learned that advocacy takes many forms and that collectively, we have the power to enact change in our local communities and beyond.

How has advocacy helped patients?

Over the years, the AAP, state organizations, and individual pediatricians have been powerful voices in influencing laws such as regulating the availability of e-cigarette and vaping products to minors, expanding Medicaid coverage to a greater number of children, and directing funds to the most hard hit areas affected by the COVID-19 pandemic. As the pandemic ravaged our communities, the AAP and its advocates were at the forefront of the battle, ensuring that the American Rescue Plan provided increased mental health care access to children and adolescents, there was increase in funding for WIC and SNAP benefits, as well as expanding the Child Tax Credit, dramatically reducing the child poverty rate. These accomplishments are an example of the collective power of pediatricians, motivated by the well-being of their patients, that has educated policymakers and propelled them to act. Whether at the local, state, or federal level, no advocacy effort is too small as it always feeds back to ensuring the health of children and adolescents across the country. Many medical training programs across the country recognize the impact early advocacy training can have and are increasingly implementing advocacy rotations into their core curricula. Trainees are able to engage the very communities they serve in hopes of leaving a lasting impact and share those experiences with the population at large. Amongst colleagues,
we have witnessed firsthand the motivation, dedication and commitment of young pediatricians for their patients. While there are numerous examples we could share, below are some more recent examples of young pediatricians advocating on behalf of children.

While a pediatric resident at Baylor College of Medicine, The Children's Hospital of San Antonio, Dr. Cody Clary, now a pediatric hospital medicine fellow at Baylor College of Medicine, Texas Children's Hospital, developed a firearm advocacy workshop based on the AAP policy statement on pediatric firearm injuries. Firearm-related injuries and deaths are the leading cause of death in children and adolescents aged 0-19 years, regardless of race or ethnicity. To address the significant toll this was taking on our youth, Dr. Clary dedicated his time and efforts to creating a curriculum that would teach pediatric residents about safe firearm storage, coupled with a hands-on demonstration by local law enforcement and skills-practice in various role play scenarios. After engaging in this workshop, pediatric residents at The Children's Hospital of San Antonio reported feeling more comfortable when discussing firearm safety with patients and families. Of note, pre- and post-intervention surveys demonstrated improved knowledge (60% vs 96%, \( p < 0.01 \)) and skills (47% vs 92%, \( p < 0.01 \)) reported by residents. More conversations regarding safe firearm storage were also documented in the medical record than ever before, 8% pre-intervention vs 24% immediately following the workshop and 18% after 12 weeks\(^5\). Similar outcomes were demonstrated by pediatric residents at San Antonio Military Medical Center (SAMMC) following participation in the workshop. The curriculum was presented regionally and nationally and was later published on MedEdPORTAL.

At the University of Utah, Intermountain Primary Children's Hospital, Dr. Stuti Das, a pediatric resident and rising pediatric emergency medicine and child abuse fellow, is working tirelessly to address health disparities for immigrant and refugee populations. Dr. Das, together with Dr. Erin Avondet, a pediatric hospitalist at the University of Utah, is leading a conference on the very subject of immigrant and refugee health through the AAP Leonard P. Rome CATCH Visiting Professorships program. Invited guest, Dr. Anisa Ibrahim, will lead a session dedicated to language inclusivity for immigrants and refugees and will spend time discussing topics related to preventative medicine and medical care concerns important to this vulnerable population. Various other speakers will address social determinants of health as well. Through this conference, Dr. Das hopes to bring awareness of the gaps in care for these patients and strives to make healthcare equitable for all. She places particular emphasis on enforcing/integrating the proper use of interpretive services within Primary Children's Hospital, including use in the emergency department, to ensure proper care is delivered to all patients in a language familiar to them. This conference will lay the groundwork for a curriculum to teach trainees about these topics.

Drs. Clary and Das are champions within our field and clearly demonstrate how even early on in our careers, we can make a difference.

What are some barriers to advocacy?

As pediatricians, we have dedicated our lives to the wellness of children and are well aware of the importance of advocating for this population. Why then do we not see more physicians taking initiative to make advocacy a priority in their practices? What barriers exist and how do we close those gaps? In speaking to colleagues who have had successful ventures in advocacy, several common themes were identified as potential limiting factors.

- Lack of mentorship: For those exploring advocacy for the first time, it can be challenging and overwhelming to navigate the systems in place and processes necessary to successfully communicate ideas at the local, state and national level. Having the guidance of someone with experience in advocacy is beneficial. To find a mentor with similar interests, visit AAP mentorship.
- Lack of adequate funding: As mentioned previously, many training programs across the country are making advocacy a priority for their medical students, residents and fellows. Many, but not all, programs have funds appropriated for advocacy. Even then, some funds are limited to trainees who are US citizens, leaving non-US citizens to search for grants or other sources of funding for their projects.
- Time restrictions: Medicine has become increasingly complex and more demanding. Some physicians may find it difficult to incorporate advocacy into their already busy schedules.
• Presenting politically-charged or controversial topics: Even amongst pediatricians, there may be differences in opinion as to how to best address firearm safety, vaccines, language inclusivity and racism, and youth gender identity. When differences arise, the best we can do is remember to shift the focus back to the shared goal of keeping children safe.
• Sustainability: For some, implementing a project or change in a community is not a hurdle; it is sustainability that presents the challenge. Advocacy is a long-term investment in communities. We must teach community leaders the skills necessary to continue the work that was started.

How can you get involved?

No matter what stage of your training or career you are in, it’s never too late! Reach out to your local or state medical society, research the topics that they are pursuing, or introduce your own. Through such organizations, or through personal volition, there are opportunities such as providing powerful and personal testimony at state hearings on laws that impact children or meeting as a group with your state and federal representatives to make your voice heard and to speak on behalf of the patients and the families we serve. Advocacy is empowered when the participants bring their personal narrative to the table and discuss how policy and laws impact their patients, practice, and community as a whole. The AAP has a comprehensive site (https://www.aap.org/en/advocacy/) which can orient you to topics that are in focus and provides pediatricians with tools and the knowledge needed to advocate on behalf of children and adolescents. While advocacy can be daunting at first, it is a worthwhile and needed endeavor, as there is power in numbers. It is also another avenue for us to uphold the commitment we have made to our patients, to be the voice of their physical and mental health. If large group work isn’t your forte, simple gestures such as personal meetings or letters to your local or state lawmakers, commenting on the federal public notice and comment database when proposed federal rule changes are suggested, or short letters to the editors to your local newspaper are all examples of advocacy that raise awareness!

To stay current on trending issues at the federal level:
• Sign up for Advocacy emails
  Email kids1st@aap.org with your name, AAP ID if known, and your preferred email address.
• Engage with AAP on Social Media. The AAP has a large presence on Twitter and there are several ways to get involved.
  ° Follow and engage with AAP on social media via @AmerAcadPeds, @AAPres, @AAPNews, and @healthychildren.
  ° Subscribe to AAP’s official #tweetiatrician list on Twitter by visiting https://twitter.com/AmerAcadPeds/lists/tweetiatricians.
  ° Request to be added by emailing AAP’s Social Media Content Producer, Terrisha Jackson, at tjackson@aap.org.
• Contact the AAP Washington Office at 202-347-8600.
• Subscribe to the AAP Pediatrics On Call Podcast (aap.org).
• Attend the AAP Advocacy Conference: Each spring, the AAP hosts an annual Advocacy Conference that brings together pediatricians, pediatric subspecialists and pediatric trainees who share a passion for child health advocacy. During the conference, participants hear from distinguished guest speakers, attend advocacy skills-building workshops and learn about timely policy issues impacting children, families, and pediatricians. On the final day, participants attend meetings with their congressional offices and others from their state to discuss a timely child health issue. At the 2022 AAP Advocacy Conference, more than 400 AAP members heard remarks from high-ranking federal officials and participated in nearly 300 virtual congressional visits where they called on their legislators to take action to support youth mental and behavioral health.

To get involved locally and at the state level:
Contact your chapter executive director to learn about your chapter’s state advocacy priorities. If you are not currently a member of your state chapter, join here. For more information about advocacy issues at the state level, contact the AAP State Advocacy Team at stgov@aap.org.

References:

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2. AAP Policy Statement: [How Pediatricians Can Advocate for Children's Health by Collaborating with Public Health Professionals](https://www.aap.org/en/advocacy/state-advocacy/)

3. [https://txpeds.org/2021-legislative-session](https://txpeds.org/2021-legislative-session)


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**AAP Journals Blog: Improving Health Equity in Our Practice**

Structural racism is everywhere, writes Rachel Y. Moon, MD, FAAP, in a Journals blog. And because racism is so embedded in every facet of our society and there are so many things to repair, it can be difficult to know how to start, she writes. She highlights an article in the current issue of Pediatrics by doctors from Harvard University and Boston University, titled “A Structural Racism Framework to Guide Health Equity Interventions in Pediatric Oncology,” and notes that it’s useful for everyone, not just those in pediatric oncology. Read her blog here.

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**Featured Clinical Topic: Update on Infant ALL**

ZoAnn Dreyer, MD FAAP, Associate Professor  
Texas Children's Hospital/Baylor College of Medicine

and

Lauren Scherer, MD FAAP  
Texas Children's Hospital/Baylor College of Medicine

**Introduction and Historical Perspectives**

Acute leukemia in infants less than 12 months of age is an aggressive cancer with high risk of relapse and overall poor outcomes. Compared to standard childhood leukemia, infants with acute leukemia tend to present with more aggressive features, including high white blood cell (WBC) count and extramedullary disease, and are more vulnerable to disease and treatment-related toxicities. The combination of unique biology and aggressive clinical manifestations in vulnerable hosts is associated with poor outcomes in infant leukemia, requires considerable supportive care, and demonstrates the ongoing need for potent, tolerable therapies.

**Diagnosis and Definitions of Infant leukemia**

Acute leukemia diagnosed prior to 12 months of age is categorized as infant leukemia, which can be myeloid or lymphoid lineage. The majority of lymphoid cases are B-cell acute lymphoblastic leukemia (ALL) (≤5% are T-cell) and unlike childhood leukemia, infant leukemia has a female predominance. While infant acute myeloid leukemia (AML) has similar outcomes to AML diagnosed in older children, infants with ALL fare far worse than older children. In Interfant-99, one of the largest trials of infant ALL, the 4-year event-free-survival (EFS) was 47%.

**KMT2A Rearrangement.** Rearrangement of *KMT2A* (the histone lysine methyltransferase 2A gene at 11q23, previously referred to as MLL), or KMT2A-R, is the hallmark somatic mutation of infant ALL involving a balanced chromosomal translocation of *KMT2A* and a gene fusion partner. This rearrangement also occurs with high frequency in infant AML. While there are over 90 reported fusion partners with *KMT2A* in infant leukemia, the most common rearrangement in infant ALL is (4;11)(q21;q23), resulting in KMT2A-AF4 (KMT2A-AFF1) fusion, followed by t(11;19)(q23;13.3) or KMT2A-ENL (KMT2A-MLLT1), and t(9;11)(p22;q23) or KMT2A-AF9 (KMT2A-MLLT3). The result of any KMT2A-R is rapidly progressive leukemia that is associated with uniformly poor prognosis.

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Infant ALL with KMT2A-R is both biologically and clinically distinct. At presentation, it is associated with an extremely high white blood cell count and commonly involves extramedullary sites, particularly the central nervous system and skin. Infant KMT2A-R ALL is associated with younger age at presentation, CD10 negative early hematopoietic precursor phenotype, co-expression of lymphoid and myeloid markers, and lack of the favorable cytogenetic features of standard childhood ALL (such as ETV6-RUNX1 fusion, trisomy 4 and 10, and hyperdiploidy). The clinical phenotype of non-KMT2A-R ALL in infants more closely resembles that of older children, with similar cytogenetic findings and lower risk of relapse. As a result, preclinical and clinical studies often focus on the KMT2A-R subgroup to improve outcomes for this cohort.

**Risk factors associated with relapse.** KMT2A-R is the most critical prognostic indicator for unfavorable disease in infant ALL, but this rearrangement is not a significant risk factor in infant AML. In infant ALL, age and response to therapy are additional important risk factors. While younger infants (<90 days old) more commonly have leukemia with KMT2A-R, they also tend to have more resistant disease and higher risk of relapse independent of KMT2A-R. Further, younger infants are also more vulnerable to chemotherapy-induced side effects and the potential for poor long-term outcomes. Wild type (wt)-KMT2A patients are considered low risk, have favorable clinical features, and are often older at presentation with 4-year-EFS on Interfant-99 of 74% (compared to 37% for KMT2A-R). Nonetheless, outcome of wt-KMT2A infants is inferior to ALL in patients diagnosed older than 1 year of age, making younger age an independent risk factor.

Consistent with older childhood leukemia, disease response impacts risk stratification. Infants with slowly responsive disease are at extremely high risk of relapse with relapse rates of 100% reported in infants with residual disease after consolidation treated on Interfant-99.

**Treatment approach in infant leukemia.** Infant AML. Given the similar prognosis and response to therapy of infants with AML compared to older children, infants are often treated on the same protocols as older children. Infant ALL. Three major cooperative groups have protocols for treatment of infant ALL, Children's Oncology Group (COG) based in North America, Interfant based in Europe, and Japanese Infant Leukemia Study Group (JILSG). All three groups risk-stratify patients upfront by KMT2A status and age and have adopted a similar induction regimen based on Interfant-993. In parallel to Interfant-99 in Europe, COG P9407, the largest clinical trial of infant leukemia in the US, combined the shortened, intensified chemotherapy regimen in POG 9407 and CCG 1953 with a prolonged maintenance-style continuation phase to evaluate role of HSCT in infants with KMT2A-R ALL. POG 9407 utilized a mg/m2 dosing strategy rather than conventional dose reductions for infants that had been previously used and was continued in Interfant studies, allowing for intensified therapy. Results of this study demonstrated that overall EFS was similar in KMT2A-R infant ALL with or without HSCT and consistent with the EFS in Interfant-99, both of which were improved compared to historical controls. AALL0631 utilized the same backbone of COG P9407, but with an Interfant-based induction regimen to reduce toxicity. In this landmark study, a FLT3 tyrosine kinase inhibitor (lestaurtinib) was added in postinduction chemotherapy to determine if this could enhance the effectiveness of chemotherapy, based on evidence of aberrant activation of FLT3 pathway in KMT2A-R infant ALL. Although this study failed to demonstrate improved benefit for the addition of lestaurtinib, this trial was the first to demonstrate proof that novel, targeted therapeutics can be tested in infant leukemia.

While induction therapy is fairly uniform among cooperative groups, post-induction therapy is variable, such as POG 9407 which compared a lymphoid-style consolidation regimen to a myeloid-style in KMT2A-R infants. Further, COG P9407 demonstrated no advantage of HSCT in KMT2A-R infant ALL compared to traditional chemotherapy. There remains uncertainty regarding the risk/benefit ratio of HSCT in this population given the significant long-term morbidities and mortality, which are heightened in this vulnerable population. As a result, any consortium groups have moved away from HSCT in infants with leukemia, especially with early disease response to chemotherapy. There is a small minority of KMT2A-R patients at high risk of relapse with poor early response to chemotherapy who may benefit from HSCT in first remission.

**Advances in infant leukemia therapy.** The unique biology of KMT2A-R leukemia has prompted development of novel treatment approaches as current remission rates and event-free-survival are still far inferior to childhood leukemia. Several of these approaches are undergoing investigation in clinical trials. Newer FLT3 inhibitors are among those to improve upon results in AALL0631 and target the striking overexpression of FLT3 in these patients. Epigenetic agents, including demethylating agents, are gaining favor and recent COG studies use azacitidine, an FDA-approved DNA demethylating agent. Histone deacetylase (HDAC) inhibitors), as well as some immunotherapy approaches including.
blinatumomab and chimeric antigen receptor (CAR) T cells have been increasingly evaluated in infant leukemia after demonstrating efficacy in standard childhood ALL. Success of these interventions will be determined as the clinical trials mature, and likely a combination of these therapies will be required to improve outcomes in infant leukemia. It is clear that use of novel agents in addition to standard chemotherapy and collaboration among cooperative groups are key components of improving outcomes in infant leukemia.

References:

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**Career Development: Should You Get an Advanced Degree?**

Pediatric hematology/oncology/BMT training is long and rigorous. However, many choose career paths which include non-clinical roles, and sometimes physicians consider advanced degrees related to these non-clinical roles. The decision to pursue an advanced degree is not easy, especially considering the time, energy, and costs (financial and otherwise) required for clinical training alone. Below, three SOHO members share their experiences in choosing to pursue an advanced degree:

**Suzanne Reed, MD, FAAP**  
*Associate Professor of Pediatrics*  
*Nationwide Children's Hospital*

**Degree: Master of Arts in Educational Studies, Biomedical Education**

1. **Why did you choose to obtain the degree?**

At the time, I had been an associate program director for a pediatrics residency program for 8 years. I also had established medical education as my academic trajectory, and had recently been promoted to Associate Professor. I loved my job as primarily a clinical oncologist, with some time as a medical education administrator and researcher, but felt stagnant. I had done some academic medical education programs through national organizations (APPD, AAMC) and had a lot of “on the job” experience in medical education, but did not have formal education. I truly decided to pursue an advanced degree to give me a more foundational understanding of medical education to 1) make me better in my current position as an associate program director, and 2) make me more credible and marketable for future medical education positions. Additionally, beyond intrinsic motivation, an important factor was that the entire program could be completed online, and mostly asynchronously (ie, on my own schedule). With a busy job and young children at home (and a pandemic!), this flexibility was crucial in deciding to pursue the program.

2. **Was the degree supported by employers with time, money or encouragement?**

I am employed by a major university with a Faculty Tuition Benefit. My master’s program was through my home university, and almost all of my tuition (and other) costs were covered by the tuition benefit. I had sincere encouragement from my division chair, who felt this program would meaningfully support my professional development. My division leadership also provided me with a small amount of protected time to complete work for the master’s program.

3. **Was it worth the time and effort?**

I am still in the master’s program, with plan to graduate late this summer (which will be 2 years after starting the program). I have loved the program, found it incredibly useful and meaningful for my current role in medical education. Additionally, I have translated some work from my classes into scholarship, including one assignment which led to both a national workshop presentation and a Grand Rounds presentation. Multiple other classes had assignments that were easily translated to/from academic work I was already doing. School work unrelated or irrelevant to my current work/positions was extremely rare. Ultimately, for me it has been worth the time and effort and has meaningfully contributed to both practical aspects of my career (like my day-to-day work and my academic output) and to my overall joy in my work.

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1. Why did you choose to obtain the degree?

Four years ago, I was tasked with starting a Quality Initiative in my section. As I delved into the quality improvement literature and trainings, I realized that QI is much more than a project or set of projects - it's a paradigm. It's about changing culture, viewing what we do as physicians through new eyes. I also quickly discovered that as physicians we are not trained to speak in the same language as the administrators that have the bulk of the financial, operational and strategic responsibilities for my organization. I chose to pursue my M.B.A. in order to learn that language, and be able to serve as a bridge between the practice of medicine and the business of medicine. It has opened my eyes to how little we are taught in medical school about the health care system outside of our own exam rooms and how hard it is to change a complex system when we don't understand the starting point. I think that few of us who chose medicine as a career want to think of it in terms of dollars; in fact, I think one of the biggest challenges in medicine is learning how to continue to care passionately about each patient individually while being aware of the larger public health implications of each decision we make. Given that in the United States we have the highest percent of GDP dedicated to healthcare of any country in the world while still having sub-par outcomes, it is imperative that physicians take a more active role in discussions about healthcare reform in order to be sure that our patients remain the focus.

2. Was the degree supported by employers with time, money or encouragement?

I was encouraged to complete the degree, but did not receive significant financial support. Initially I was enrolled in a program that had classes during the day, but I transferred to a program with evening classes due to difficulties in scheduling clinics around class obligations.

3. Was it worth the time and effort?

Obtaining this degree has given me new insights and skills in areas of leadership and management while giving me new eyes through which to view the career I consider a calling, not just a job.

1. Why did you choose to obtain the degree?

During the 1990's there was a national move toward managed care with the expectation that all of health care would transition to the HMO model. As someone who believed in the importance of pediatric academic medicine, I was concerned that the only people who appeared to understand the economics of health care were business people without either clinical or academic interests. I was also convinced of the need to focus on health care outcomes and how technology could facilitate improved quality of care. Like Dr. Rooms, it was clear that academic pediatrics needed physicians who were knowledgeable about the key concepts of finance, change management, negotiation, quality and leadership and spoke that language. I investigated several options including MBAs, but eventually landed on the MMM.
from Carnegie Mellon University because of its incorporation of informatics, the flexibility the combined in-person and online coursework offered and price.

2. Was the degree supported by employers with time, money or encouragement?

My participation was encouraged by the leadership of our pediatric multispecialty group. While I was not afforded specific time or funding, my partners did allow flexibility for me to schedule time away from service for the four in-person weeks over two years.

3. Was it worth the time and effort?

Without doubt, it was. Firstly, I came away with a number of tools in my toolbelt that have been used repeatedly. For example, the IT and change management skills facilitated my work as a clinical informatician during our EHR implementations. The management and leadership training has been key for many of my activities within our pediatric multispecialty group and our Dept. of Pediatrics including faculty recruitment, retention and career development. We have started a “Micro-MBA” program here to begin to teach these concepts to busy physicians. The quality improvement lessons, subsequently augmented by LEAN and Toyota Production System training, impacted the quality work I currently do here and my participation in the Children's Hospital Association's Children's Cancer and Blood Disorders Network. Over the past 10 or so years I have transitioned to 50% and now 80% effort in administration. There is no doubt that the ROI (return on investment) for this degree was distinctly positive from the perspective of my effectiveness in these roles.

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Does “Team Depression” Have an ICD10 Code?
Coping with the Loss of Team Identity Amidst COVID*

Lisa Humphrey, MD, FAAP

Director of Hospice and Palliative Medicine and Hospice and Director, Palliative Medicine (HPM) Fellowship Program

Director, Nationwide Children's Hospital

My palliative care teammates and I have a phenomenal team spirit. We share laughs, anguish, feisty outbursts about a referring team, irreverent moments of mirth, and when a patient dies, quiet, reflective periods. We also have moments of disagreement and frustration at our jobs, and even at each other. We view all of it as signs of a healthy team, and we feel proud about it. We work diligently on the vitality of the team and we all see our daily team meeting as critical to our work. Yes, we grumble at its inefficiency as we have an extraordinary predilection for tangents. We have attempted to modify this meeting when the wish for efficiency heightens. Yet we have never successfully maintained...
a more efficient plan and recently admitted to ourselves that we need this time for the health of our team. We have surrendered to the inefficiency.

Then COVID occurred. We came together as we always do when large decisions need to be made for the team. We agreed to split the team up so that only half of the team is in the building at any time lest we all become exposed and quarantined simultaneously. We strategized our revised communication pathways, re-oriented the workspace to isolate each member when in-house, organized remote access meetings, and said our goodbyes.

That was multiple months ago. We are all back in the office but still physically separated. We pass each other in our tight quarters with the constant apologies of being too close and a haste to our tone and footwork as if being social will increase our risk of transmission. It is as if “physical distancing” really has led to “social distancing” in that we feel more socially isolated still even though we are back in the same space. Our daily meeting has been demoted to brief video encounters with laser focus. Gone are the tangents and too often, the belly laughs. Reflective periods have lengthened while our angst has remained or worsened.

We did not consider the impact of the separation on our team dynamics, and thus the collective mental health of our team, on the day we decided to “split up.” We were not afforded such a luxury; rather, we were forced to dismantle the best tool in our collective coping toolbox at the very time we needed it to navigate our fears and stressors - and we mourn its loss. Things have changed, we don't know for how long, and some of the best parts of our day are gone. If team depression and grief are valid constructs, I would diagnosis our team with them, and currently cannot find a team anti-depressant to improve its mood.

In the end, I have come to realize that akin to patient/family encounters, I cannot will “better” into being merely because I wish it. Nor should I attempt to wash over the team's feelings and struggles. Rather, I need to honor it, give it the space we would give any scared family facing uncertainty, and attend to each member but also the concept of team as an independent entity. I think we are up for the challenge as another opportunity to grow as a team. Experiences like this make me grateful to have the colleagues I have, both institutionally and nationally, to navigate all of this together.

This article is re-printed with permission from the September 2020 issue of the AAP Section Hospice and Palliative Medicine Newsletter.*

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**Section on Hematology/Oncology Education Subcommittee Update**

Mary Jane Hogan, MD, FAAP  
*Program and Education Subcommittee Chair*

Over the past year, the Education Subcommittee has developed or revised 9 parent articles for the AAP HealthyChildren.org website and there are several more that are pending. Physicians and parents can also print the articles using icon at the top or bottom of the page. Thank you to the **subcommittee members** who have worked on these articles and you can see that they are being accessed by the metrics for the last year:

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2021 and 2022 AAP National Conferences

The 2021 AAP National Conference was held virtually. Thank you to Dr Jacquelyn Powers and Dr Youngna Lee Kim who served as faculty for the conference. Dr Powers presented, “Iron Deficiency: AAP Update on Screening and Treatment” as a live session in which there were 822 attendees and the recorded session was viewed by over 2,900 individuals. Dr Kim presented an on-demand session, “Is this CBC abnormal? or How to interpret a complete blood count” with 922 recording views.

The 2022 AAP National Conference will be held in-person in Anaheim, California October 7 – 11, 2022. The following topics have been approved and faculty are in the process of being identified.
1. Approaches to Abnormal Uterine Bleeding and Other Bleeding Symptoms
2. Iron Deficiency: AAP Update on Screening, Diagnosis and Treatment
3. The Role of the General Pediatrician in the Care of Children with Sickle Cell Disease

Archived Webinar: Long-term Follow-up Care for Childhood, Adolescent, and Young Adult Cancer Survivors

The following PCO Webinar, presented by Melissa M. Hudson, MD, FAAP, is available to view on Pediatric Care Online (PCO). There is no cost to view the presentation. Please share with colleagues!

In this PCO Webinar Dr. Hudson discusses how primary care pediatricians can efficiently access resources to guide them in providing evidence-based care for survivors of pediatric cancer. Learning objectives of this webinar include:

• Utilize the Children's Oncology Group Long-Term Follow-Up Guidelines and the current AAP clinical report “Long-term Follow-up Care for Childhood, Adolescent and Young Adult Cancer Survivors” to provide evidence-based care for survivors of pediatric cancer.
• Identify barriers in pediatric primary care clinics that make it difficult to provide evidence-based care for survivors of pediatric cancer.
• Develop possible solutions to overcome the barriers in pediatric primary care clinics that make it difficult to provide evidence-based care for survivors of pediatric cancer.

To view the webinar, click here or go to the PCO Webinars page at https://publications.aap.org/pediatriccare/resources/15681.
Beyond Genetic Diagnosis, Therapeutic Advancements for Skeletal Disorders*

Nadia Merchant, MD, FAAP
Assistant Professor of Pediatrics, Division of Endocrinology and Diabetes
Children's National Hospital

As personalized therapies for rare diseases are becoming a reality, it is extremely important that pediatric endocrinologists are confirming certain genetic disorders and determining if patients may benefit beyond conventional management and treatment. Nosology and Classification of Genetic Skeletal Disorders has expanded over the last few decades, the most recent version in 2019 comprised of 461 different diseases with pathogenic variants affecting 437 different genes. There are over twenty treatments currently being studied, some have been recently FDA approved for rare genetic skeletal disorders. Even though many of these skeletal disorders are not primarily managed by endocrinologists, this may change as we have more therapeutic treatments. By discussing three specific genetic skeletal disorders, the goal is to emphasize the importance of endocrinologists being up to date and comfortable with new treatments that are rapidly emerging.

Achondroplasia is the most common form of disproportionate skeletal dysplasia. Incidence is about 1 in 25,000 live births with 80% of cases being de novo. Achondroplasia is associated with complications that include foramen magnum stenosis, craniocervical instability, sleep apnea, scoliosis, spinal stenosis, recurrent ear infections, and obesity. Approximately 97% of the cases are caused by a G380R substitution of the fibroblast growth factor receptor 3 (FGFR3) gene, resulting in a gain of function mutation. FGFR3 negatively regulates endochondral ossification, and thus gain of function FGFR3 mutations limit endochondral growth and lead to disproportionate growth. Hypochondroplasia is milder than achondroplasia, and around 70% of hypochondroplasia cases are caused by FGFR3 mutations.

There are no FDA approved treatments for achondroplasia, however this may change soon. BioMarin developed Vosoritide, a C-type natriuretic peptide (CNP) analog that is given as a daily subcutaneous injection. CNP is a known negative regulator of FGFR3. It binds to natriuretic-peptide receptor 2 (NPR2) inducing cyclic guanosine-3',5' monophosphate (cGMP) synthesis, thus inhibiting the MAPK pathway. Vosoritide increases extracellular matrix production which works with chondrocytes to increase endochondral ossification. Last year, BioMarin completed its phase 3 study of Vosoritide. This was a randomized, double-blind, placebo-controlled study of 121 children with achondroplasia aged 5 to 14 for 52 weeks. It demonstrated a favorable safety profile with increase in annual growth velocity. In August 2020, BioMarin submitted a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) for children with achondroplasia. There is currently also an investigator-initiated clinical trial to determine if Vosoritide improves growth velocity for specific genetic disorders with short stature (hypochondroplasia, CNP deficiency, heterozygous NPR2 variant, rasopathies, SHOX variants). I must disclose that I am a co-instigator for this trial. Another treatment in the pipeline is by Ascendis Pharma that has developed TransCon CNP, a slow release CNP analog that is currently in a phase 2 clinical trial. CNP is bound to and shielded by a TransCon Carrier that allows for sustainable release of CNP over seven days.

Since 2018, there has been a FDA approved treatment for X-linked hypophosphatemia (XLH), also known as vitamin D-resistant rickets, which is the most common heritable form of rickets. It is due to inactivating mutations in the PHEX gene leading to FGF23 (fibroblast growth factor 23) over activity. The FGF23 hormone, secreted from osteocytes, inhibits the kidneys’ ability to reabsorb phosphate and degrades 1, 25-dihydroxyvitamin D. As a result, patients have low serum phosphate, high urinary phosphate and low or inappropriately normal serum 1,25-dihydroxyvitamin D levels. The abnormal phosphate handling may lead to bowed legs, bone pain, short stature and delayed walking. The FDA approved Burosumab, an anti-FGF23 fully human monoclonal antibody, which targets the underlying pathophysiology of XLH by increasing the levels of the sodium phosphate co-transporter in the proximal kidney tubules and increases 1 alpha hydroxylase. Burosumab has been shown to improve the clinical course of this disease with less side effects than conventional treatment with daily oral phosphate and activated vitamin D.

In 2015, the FDA approved a therapeutic option for Hypophosphatasia (HPP). HPP is caused by loss of function mutations in the ALPL gene which encodes the tissue non-specific alkaline phosphatase enzyme (TNSALP). HPP presents with defective bone mineralization and is inherited in both autosomal dominant and recessive patterns. Decreased TNSALP activity results in elevated serum inorganic pyrophosphate (PPI), which is a substrate of TNSALP and inhibits tissue mineralization, thus leading to impaired bone or tooth mineralization. Asfotase Alfa (AA), a recombinant glycoprotein

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that contains the catalytic active site of TNSALP, enables proper degradation of PPI. Asfotase Alfa has shown improvement in certain forms of HPP, specifically infantile and juvenile-onset HPP. For HPP, it is critical to understand the phenotypes to determine if patient may be a candidate for AA.

These therapies have only emerged over the last decade as more genes were discovered for rare diseases. Since there is limited longitudinal data on new therapies for rare diseases, as subspecialists, pediatric endocrinologist must stay up to date and provide families and patients with information to make the best decision for deciding to pursue novel therapies.

References:

*This article is re-printed with permission from the Fall 2020 issue of the Section on Endocrinology newsletter.

Social Determinants of Health and Pediatric Cancer Outcomes

Eric J. Werner, M.D., M.M.M., F.A.A.P.
Division of Pediatric Hematology/Oncology
Chief Medical Quality Officer, Children's Specialty Group
Medical Director, Clinical Resource Management
Children's Hospital of The King's Daughters Health System
Professor of Pediatrics
Vice Chair for Faculty Affairs, Dept. of Pediatrics
Eastern Virginia Medical School

Differences in health outcomes by race, ethnicity, income, etc. have been well demonstrated in the U.S. Such disparities, that in many cases are inequities, have been described for children and adolescents with cancer. In this SOHO Newsletter contribution, I will review two recent publications that contribute to our understanding of this important issue. Siegel et al.1 use large databases to look at the impact of demographics and economic status on pediatric cancer outcomes over time. In a systemic review of social determinants of health (SDoH) and pediatric cancer survival, Tran et al.2 evaluate the effects of the five SDoH domains and identify opportunities for future research. Together, these articles help us not only understand how SDoH factors impact cancer survival, but point to opportunities for meaningful interventions.

Siegel et al. used data from the National Vital Statistics System to track cancer death rates patients <20 years of age. Using deidentified data, they were able to combine individual demographic data with county-level SDoH data to analyze their impact. Some of their key findings from the >30,000 reported cancer deaths in this group include:

- An overall cancer death rate in this age group of 25 cancer deaths per 1 million population.
- Overall cancer death rates decreased from 2002-2009 then stabilized from 2009-2016.
- Cancer death rates were higher for patients from counties where more than 18% of families are below the poverty level or counties where more than 15.8% of individuals ≥25 years of age have less than a high school education.
- Cancer death rates were highest in metropolitan areas >1 million and in the Western U.S. Census region.
- Cancer death rates were not significantly different between non-Hispanic White, non-Hispanic Black or Hispanic groups.
Cancer death rates decreased for all age groups, both sexes and all racial and ethnic groups, but less so for non-Hispanic American Indian/Alaskan Native and non-Hispanic Asian/Pacific Islander than for the other groups.

As cancer death rates can be affected by cancer incidence, Siegel et al. also studied cancer survival rates using data from the National Program of Cancer Registries. The survival data from this registry covers 93% of the U.S. population. They report relative survival, defined as the ratio of all-cause survival in patients diagnosed with cancer compared to the expected all-cause survival of similar individuals in the general population. Here they evaluated data from >180,000 cancer patients. Overall survival was 83.5%. Additional findings include:

- Survival rates increased from 82.0% in the 2001-2007 cohort to 85.1% in the 2008-2015 cohort.
- Survival was higher for females 84.6% (95% CI 84.3-84.8) than males 82.6% (95% CI 82.4-82.9).
- Compared to the non-Hispanic White population survival rate of 85.2% (95% CI 85.0-85.4), survival rates were lower for the non-Hispanic Black (77.8% (95% CI 77.2-78.3)), Hispanic (81.8% (95% CI 81.3-82.2)), non-Hispanic American Indian/Alaskan Native (80.9% (95% CI 78.7-82.9)) and non-Hispanic Asian/Pacific Islander (82.6% (95% CI 81.7-83.5)) populations.
- Survival correlated with county-level economic status. For example, it was 85.1% (95% CI 84.8-85.4) in the counties in the top quartile vs. 81.5% (95% CI 81.0-82.0) for the counties in the lowest quartile.

These authors also noted that improvements in cancer death rates and survival rates varied by tumor type.

In the second article, Tran et al used Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to identify English-language publications over the past 20 years that looked at children 0-19 years of age from the United States with any type of cancer that included at least one SDoH and assessed survival as a primary or secondary outcome. They used the Healthy People 2030 framework to define SDoH. Healthy People 2030 defines social determinants of health as “The conditions in the environments where people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning and quality-of-life outcomes and risks” and further divides these SDoH into five domains, economic stability, education access and quality, health care access and quality, neighborhood and built environment and social and community context. Twenty-five articles were included in their final analysis. They then evaluated findings related to each of the five domains of SDoH. Some of their findings include:

- Socioeconomic status as determined by neighborhood, county or census tract data was the most common measure. Most, but not all of these studies identified that socioeconomic status had significant associations with cancer survival.
- Some studies used community level income data. Some but not all found a negative effect of median income on survival. Only one study used household poverty and found that it had a significant negative impact on survival.
- Very few studies looked at geographic issues. Two studies did not find an adverse effect of driving distance to the treatment center.
- Insurance status was evaluated at the individual level. The identified articles showed mixed results for the effect of insurance on cancer survival. Some studies did find poorer outcomes for patients with no insurance, public insurance and/or Medicaid whereas other studies did not find that insurance status affected outcomes.

This study was limited by the heterogeneity of the included publications which prevented performing a meta-analysis. This includes differences in diagnoses, data sources and analytics. However, while not all studies demonstrated worse outcomes for tested variables, those that did almost invariably showed poorer outcomes for lower socioeconomic status, poverty and either no insurance or public/Medicaid insurance status.

In her editorial comment on the Siegel article, Dr. Johnson performs an additional analysis that further demonstrates disparities in cancer outcomes based on race and also discusses studies that suggest that racial disparities in pediatric cancer outcomes are interconnected with if not dependent on disparities in socioeconomic status. She also cites the importance of performing additional research into addressing SDoH disparities for pediatric and adolescent cancer patients and that funding may be available through the Cancer Survivorship, Treatment, Access and Research Act. Through such research, interventions to address any or all of the SDoH domains can be assessed for effectiveness.

Continued studies need to assess the impact of SDoH and interventions to address them. There is the potential to use
deidentified data aggregated from electronic health records or other sources to capture more current data, which can assess such interventions at a population level. While health systems themselves may not be able to solve their patients’ and families’ SDoH challenges, there is a need to develop and implement ways to connect patients and caregivers to community, government and other resources that currently exist and advocate for additional resources that can lead to health equity.

References:

Hot topics in Hematology and Oncology

**Reviewed by:** Laura Rooms, MD, FAAP, Assistant Professor Pediatrics, The Jimmy Everest Center for Cancer and Blood Disorders in Children, University of Oklahoma Health Sciences Center.

1. Andolina, J.R., Wang, YC., Ji, L. *et al.* Adolescent and young adult (AYA) versus pediatric patients with acute leukemia have a significantly increased risk of acute GVHD following unrelated donor (URD) stem cell transplantation (SCT): the Children’s Oncology Group experience. Bone Marrow Transplant (2022). [https://doi.org/10.1038/s41409-021-01558-6](https://doi.org/10.1038/s41409-021-01558-6)

Adolescents and young adult (AYA) patients with Acute leukemia, defined as those aged 15-39 years old, have not experienced the same improvements in outcomes as their younger cohorts. Reasons for this are myriad, including a higher incidence of high-risk molecular changes in their leukemia cells, which in turn leads to more frequent need for allogeneic stem cell transplantation (SCT) in order to achieve a durable remission. The Children's Oncology Group (COG) has completed three trials that included SCT, providing an opportunity to evaluate the effect of patient age on the incidence of acute Graft v. Host Disease (GVHD). Their analysis revealed that older patients had a significantly higher risk of developing GVHD (~55% for patients aged 13-21y v. ~ 32% for those aged 2-12y). Their data did not reveal age as an independent risk factor for development of chronic GVHD. Interestingly, the risk of relapse was significantly lower in the older age group, which is consistent with prior studies suggesting a graft-v-leukemia affect that correlates somewhat with GVHD incidence. The authors propose future stratification by age when studies that have GVHD incidence as a study outcome, as well as consideration of patient age in the selection of GVHD prophylaxis regimens.


Pediatric tumors differ from those in adults in many respects, including a lack of known predisposing factors in the majority of patients, a tendency to arise from a failure along maturation pathways rather than by acquiring successive molecular hits, a lower total number of genetic aberrations and increased likelihood of being driven by a single event, and a limited involvement of the immune system and immune cells. For these reasons, the fifth edition of the WHO classification of tumors will separate pediatric tumors into their own volume. The new edition will also incorporate the shift in diagnostic classification from a morphology-based system to a molecularly based one reflective of the development of new technologies such as next-generation sequencing, methylome analysis and proteomics. The authors conclude that” “The integration of classic histologic diagnoses with advanced molecular techniques such as methylation profiling, RNA-seq, whole-genome sequencing, or whole-exome sequencing...represent a step change in the categorization of pediatric
cancers and definition of prognostic and/or predictive subgroups or biomarkers to be included in the standard diagnostic process, paving the way toward more personalized therapeutic strategies”.


Although it is widely accepted that health disparities based on socioeconomic status in adults with cancer exist, few studies have looked at health disparities in the pediatric population. The authors conduct a review of the literature on “outcomes disparities in children and adolescents (0-19 years old) diagnosed with cancer in the United States based on race, socioeconomic measures, and age”. Through their literature search and analysis, they identify several causes of potential disparities, including limitations in access to care, variable representation in clinical trials, biological differences/differences in germline genetics, treatment non-adherence, language barriers and implicit racial bias with interconnections found between several of these. The authors propose interventions such as purposeful inclusion of safety net hospitals into clinical trial cooperatives, improving communication particularly when English is not the patient’s native language by increasing availability of translators and written translated materials, and also through improving health literacy which is vital in a parent’s ability to understand and retain important information regarding the care of their child. A patient navigator might also help to identify and minimize barriers to care, similar to roles that have proven effective in the care of other conditions such as asthma.

Reviewed by: Eleny Romanos-Sirakis, MD, MS, FAAP, Assistant Professor of Pediatrics, Staten Island University Hospital Northwell Health, Zucker School of Medicine at Hofstra Northwell


Patients with multisystem inflammatory syndrome in children (MIS-C) have shown derangements in the coagulation cascade, and rates of thromboembolism in this population have been documented up to 6.5%. In this retrospective review, 30 patients were included in order to characterize the viscoelastic testing profiles of children with MIS-C. Thromboelastography (TEG) with platelet mapping was performed on 19 of these patients and compared with age and gender-matched controls prior to cardiac surgery. Patients with MIS-C showed evidence of hypercoagulability on TEG, with results consistent with increased rate and strength of clot formation and decreased fibrinolysis. Increased ESR and platelet count were associated with increased clot strength. 57% (17 patients) received anticoagulation plus aspirin, 17% (5 patients) received aspirin alone, and 10% (3 patients) received anticoagulation alone. 20% of patients had a minor bleeding event.


A retrospective review of patients aged 60 days to 5 years was undertaken to determine the dose of enoxaparin needed to attain a therapeutic anti-Xa level of 0.5-1 U/mL. 176 patients seen at Nationwide Children's hospital were included in this review. The patient population was split into 4 age groups for analysis. Patients aged 60 days to less than 7 months (n=73) required the highest mean dose of enoxaparin (1.73 mg/kg/dose every twelve hours, p<0.0001) to achieve therapeutic levels. Patients 7 months to under 1 year of age required a mean dose of 1.19 mg/kg/dose and patients between 1 and 5 years of age required doses of 1.14 mg/kg/dose to achieve therapeutic anti-Xa levels. 48% of the youngest patients in this study (2 months to under 7 months) required 2 or more dose adjustments to achieve therapeutic anti-Xa levels. 56% of the patients aged 7 months to under 1 year of age achieved therapeutic anti-Xa levels with initial enoxaparin dosing (no dose adjustments needed).


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A cohort study of 153 patients from 143 families with confirmed biallelic SBDS mutations was performed to assess the association between hematologic complications and age. Hemoglobin was positively associated with age up to 18 years (p<0.0001) and then negatively associated with age over 18 years (p=0.0079). Absolute neutrophil counts were positively associated with age (p<0.0001). Platelet counts and marrow cellularity were negatively associated with age (p<0.0001). Severe marrow failure requiring transplant occurred in 8 patients (median age 1.7 years, with 7 of 8 patients requiring transplant by 8 years of age). 16 patients developed myelodysplasia (median age 12.3 years) and 10 developed acute myeloid leukemia (median age 28.4 years). Hematologic complications were a major cause of mortality (17 out of 20 deaths).


The authors document a prospective, investigator-led, open-label, multi-center, randomized, phase 3 trial comparing the efficacy of horse ATG plus cyclosporine with eltrombopag (Group B, n=96 patients) or without eltrombopag (Group A, n=101) as initial therapy for severe aplastic anemia in previously untreated patients aged 15 years and older. 10% of patients in group A and 22% in group B had a complete response at 3 months (OR 3.2, CI 1.3-7.8, p=0.01). At the 6-month time point, the overall response rate (complete or partial response) was 41% in group A and 68% in group B. The median time to first response was 8.8 months for group A and 3 months for group B. The incidence of severe adverse effects was similar between the 2 groups. Event-free survival was 34% in group A and 46% in group B. Somatic mutations were initially noted in 29% and 31% of patients in group A and B, respectively; these percentages increased to 66% and 55%, respectively at 6 months. The authors conclude that the addition of eltrombopag to standard immunotherapy in this patient population improved the rate, rapidity, and strength of hematologic response without additional toxic effects.


In this prospective study, the authors evaluated the effect of 1 year of hydroxyurea treatment on brain function in children with sickle cell anemia (HbSS and HbS beta-zero thalassemia). 19 patients (mean age 12.4 years [range 7.2-17.8 years]) were included in this analysis. After 1 year of hydroxyurea treatment, increases in the full-scale IQ scores (p=0.059) and reading passage comprehension (p=0.033) were noted. There was also a significant decrease in TCD velocity (~11 cm/s, p=0.007), but no significant change in the frequency of silent cerebral infarcts. Hemoglobin F was significantly associated with reading passage comprehension. Hemoglobin was associated with lower TCD velocity and improved working memory.

Tech Tip - New CSCF Living Well with Sickle Cell Mobile App

The Children's Sickle Cell Foundation (CSCF) Living Well with Sickle Cell® is mobile application intended to help individuals living with SCD 13 years and up better manage their health care. This powerful tool may be used to support pre-transition and transition programs around the world and is helping adults keep appointments and remember to take their medications. Watch this video to learn more about the app and download it today on your iPhone and/or Android.

*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.*
2022 AAP SOECP Research, Education, and Advocacy Awards

Do you know someone who has been an incredible mentor, especially to those underrepresented in medicine? Is an early career physician in your practice leading noteworthy quality improvement projects that are worth celebrating? Are you on a team that is championing community initiatives that address health disparities? We want to hear about these great things!

The AAP Section on Early Career Physicians (SOECP) excited to open the nomination forms for our awards and showcase the incredible work of the Academy's early career physician members. Click on the links below for more information about each award and to submit a nomination.

- **Advancement in Research Award**
- **Excellence in Education Award**
- **Leadership in Advocacy Award**

**Deadline:** June 1, 2022

**Details:** Nominations and self-nominations are welcome. One individual person or entity is awarded each of the above awards each year. The award recipient will be honored during an SOECP Networking and Awards Reception in 2022. The award provides full general registration for the 2022 AAP National Conference and Exhibition and a $1,000 honorarium.

**Eligibility:** Nominees are not required to be members of the Section on Early Career Physicians; however, preference is given to Section members. View the application details at the links above for further eligibility requirements.

In alignment with the AAP Equity Agenda, the SOECP is committed to celebrating the work of members from groups underrepresented in medicine. We encourage nominations for diverse candidates in terms of race, ethnicity, religion, sex, sexual orientation, gender identity, disability, subspecialty, practice location, and/or national origin.

[Click here](#) to learn more about the awards and check out our 2021 honorees.

**Questions?** Contact [Britt Nagy](#)
Commission on Cancer Announces New Accreditation Standards . . .  Continued from Page 20

current requirements for pediatric cancer programs. The goal was to create a standard definition for a pediatric cancer program along with standards that better address the needs of pediatric cancer patients, are more relevant to freestanding pediatric/children's hospitals, and can also be applied to those CoC-accredited hospitals that treat a large number of pediatric patients in addition to their adult population.

These new standards will better meet the needs of currently accredited pediatric/children's hospitals, lead to increased participation in the CoC accreditation program by freestanding pediatric/children's hospitals and allow CoC-accredited adult hospitals that treat a large number of pediatric patients the opportunity to pursue a secondary accreditation designation to recognize the quality of care they provide to pediatric patients.

The new Pediatric Cancer Program category definition is posted on the CoC website and the new standards are included in the current version of the Optimal Resources for Cancer Care (2020 Standards) manual also accessible from the CoC website. Of the current 36 standards, 19 were revised, 10 remained the same, and 7 are exempt.

The new standards were made available for public comment in September 2021. The public comment feedback was incorporated into the final set of standards formally approved by the CoC’s Accreditation and Executive Committee's in January 2022.

Current Pediatric Cancer Programs, those considering apply for CoC accreditation, and currently accredited adult hospitals interested in applying for the secondary designation will be required to demonstrate compliance with the new standards beginning January 1, 2023 and the first site visits to review compliance will take place in 2024. Pediatric hospitals that are not currently accredited by the CoC are encouraged to review the new standards and apply for accreditation. A new application process for currently accredited adult hospitals that want to apply for the secondary designation will be released later this year.

Questions can be directed to coc@facs.org.

Sickle Cell Disease Coalition (SCDC) Update

The mission of the SCDC is to amplify the voice of the SCD stakeholder community as well as promote awareness and improve outcomes for individuals with SCD. The Coalition will focus on promoting research, clinical care, education, training, and advocacy. The SCDC serves as a platform to encourage stakeholders to work together to develop and implement important projects and activities that will ultimately help to improve outcomes for individuals with SCD.

The SCDC Update includes resources and ways you can help raise awareness. View the current and previous editions of updates here. We encourage you to share this information with your colleagues who have an interest in sickle cell disease.

- **Save the Date: SCDC Global Access to Sickle Cell Research & Clinical Trials Webinar Pt. 2** – Please mark your calendars for the SCDC Global Access to Sickle Cell Research & Clinical Trials Webinar Pt. 2. The program will take place on Friday, May 20, from 9:00am-10:45am ET in celebration of International Clinical Trails Day and focus on integrating community engagement and warriors’ values into global research. Additional details, including registration information and a formal agenda here. If you are interested in viewing the first webinar you may access a recording of it here.
SOHO Collaboration Site!

As a member of the AAP Section on Hematology/Oncology (SOHO) you have access to the SOHO Collaboration Web site. This member’s only benefit of the SOHO grants each current Section member access to the following:

- Opportunities to get involved in the SOHO leadership committees and policy review groups.
- Information for trainees regarding a career in pediatric hematology/oncology.
- Section publications including the newsletter and AAP News articles.
- Quick access to new and/or existing AAP policies developed by SOHO and practice guidelines of interest to SOHO members.

And much more!

View Access Instructions below. For questions or suggestions regarding the SOHO collaboration site please contact SOHO Staff, Suzanne Kirkwood or the SOHO Chair, Cynthia Wetmore.

Step 1: Visit https://www.aap.org/ and scroll down and click on Collaborate.
Step 2: Log in with your AAP login credentials.
Step 3: Access your Section collaboration site
Step 4: Begin navigating your site. Note- You can bookmark your site for future use
Welcome to Our **New SOHO 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!

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**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](mailto:ceallen@txch.org) or Suzanne Kirkwood at [skirkwood@aap.org](mailto:skirkwood@aap.org) for future issues of the newsletter.

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### The Section on Hematology/Oncology Executive Committee

**Chairperson:**  
Cynthia Wetmore, MD, PhD, FAAP

**Executive Committee:**  
Carl Allen, MD, PhD, FAAP  
David Dickens, MD, FAAP  
Irtiza Sheikh, DO FAAP – Training Fellow Liaison  
Jayson Stoffman, MD, FAAP  
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Amber Yates, MD, FAAP

**Immediate Past-Chair:**  
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**Liaisons:**  
David Dickens, MD, FAAP – Alliance for Childhood Cancer  
Cynthia Wetmore, MD, PhD, FAAP – Council on Pediatric Subspecialties

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

**Newsletter Production Specialist**  
Mark A. Krajecki

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*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.*