The mission of the Pediatric Pharmacy Association is to promote safe and effective medication use in children through Collaboration, Advocacy, Research, and Education.
The ISMP (Institute for Safe Medication Practices) Annual Cheers Awards, which recognize individuals, organizations, and groups that have demonstrated extraordinary commitment to advancing the science and practice of patient safety, honored PPA for the Key Potentially Inappropriate Drugs in Pediatrics: The KID List on December 7, 2021.

The KID List Collaborators developed the first available list of drugs that should be avoided or used with caution in pediatric patients. In 2017, the Pediatric Pharmacy Association (PPA) commissioned seven pediatric pharmacists to compile a list of drugs potentially inappropriate for use in pediatric patients. Those pharmacists were Rachel S. Meyers, PharmD; Jennifer Thackray, PharmD; Kelly L. Matson, PharmD; Christopher McPherson, PharmD; Lisa Lubsch, PharmD; Robert C. Hellinga, PharmD; and David S. Hoff, PharmD.

The goal was to improve the safe use of medications in pediatric patients and to inspire future medication safety research in children. After 3 years of literature reviews and gathering expert opinions, the KID List was published in the April 2020 issue of the Journal of Pediatric Pharmacology and Therapeutics.
In December 1979, a small group of Directors of Pharmacy in Children’s Hospitals gathered to discuss the need for a free-standing, autonomous organization dedicated to the specific needs of pediatric patients. After many years of informal meetings and formal programs, the Pediatric Pharmacy Association was officially recognized by the IRS as a tax-exempt organization on December 14, 1993, which now has been designated as "Founders Day".

PPA ANNUAL FUNDRAISING CAMPAIGN AND MATCHING PROGRAM

This year the PPA Board has announced a matching fund program. For each dollar donated to the John Dice Memorial Student Scholarship Fund the Association will match it up to $20,000. The donations will allow PPA to enhance the Scholarship program. In total, the campaign raised $27,800! PPA would like to thank all those who donated!

The John Dice Student Scholarship is the first scholarship available to pharmacy students who have demonstrated dedication to pediatric pharmacy practice and have expressed an interest in pursuing a career as a pharmacist specializing in pediatrics. For more information, click here.
Dr. Katie Rasmussen is a clinical pharmacist for the South Carolina Hemophilia Treatment Center (affiliated with Prisma Health). She completed pharmacy school at South Carolina College of Pharmacy (SCCP), which is now University of South Carolina College of Pharmacy. She went on to complete a PGY1 at Nationwide Children’s Hospital and PGY2 at Prisma Health Children’s Hospital.

In her current role, Dr. Rasmussen wears many hats. Some of her responsibilities include attending clinics, being a drug information resource for physicians and patients, and managing the 340B contract pharmacy program. She also serves as a preceptor and go-to pharmacist for the pediatric special care clinic which cares for children with complex needs. In addition to these responsibilities, she also spends time staffing or cross covering different clinical services at the Prisma Health Children’s Hospital, mainly Pediatric Hematology/Oncology. Because of her love for teaching, Dr. Rasmussen serves as a PGY1 mentor and teaches in the University of South Carolina College of Pharmacy Pediatric Elective.

Dr. Rasmussen knew early on in pharmacy school that she wanted to pursue pediatric pharmacy. She sought out pediatric research opportunities and was able to present her research at PPA as a P3 student, which provided great networking opportunities going into her P4 year. She was also involved in her local PPA chapter. She states that developing these relationships early on has served her well in her career. Even today, as a clinical pharmacist, Dr. Rasmussen says her mentors still challenge her to be the best pediatric pharmacist she can be.

Dr. Rasmussen states that, "wearing a multitude of hats since finishing residency has helped me stay a well-rounded pharmacist and challenged me to stay up to date on many different disease states!" She credits her many mentors and preceptors for helping her get to where she is today. She also feels that completing two years of pediatric pharmacy residency, with a variety of rotations, helped prepare her to cover multiple services in her current position. Since she was exposed to multiple service lines during residency, as well as multiple different practice styles and two different hospital systems, she believes this helped to mold her into a well-rounded practitioner!

For future or new pediatric pharmacists, Dr. Rasmussen recommends you always ask questions if you are unsure, stay in touch with mentors, and develop your own practice style!

"PPA has contributed to my professional growth and success since my P1 year of pharmacy school! PPA has provided me resources, networking opportunities, and wonderful mentors. As I continue to grow in my career, I now rely on PPA for updates on new drug therapy, new research, answers to questions on listservs, and BCPPS recertification material! I’m looking forward to the next time we can all meet in person for the annual meeting!"

- Dr. Katie Rasmussen
Dr. Seerat Kapoor is currently a PGY2 Pediatric Pharmacy Resident at Le Bonheur Children’s Hospital where she is focusing in pediatric critical care. Dr. Kapoor completed a 6-year pharmacy school program at St. John’s University right out of high school. She completed her PGY1 at Le Bonheur Children’s Hospital before early committing to their PGY2 program. Her passion for pediatrics started at an early age after her own family experiences with pediatric healthcare. This passion grew while she was in pharmacy school and worked at Cohen Children’s Medical Center as a pharmacy intern for three years. Dr. Kapoor has been actively involved in the Pediatric Pharmacy Association (PPA) since she was a student and helped establish the chapter at her school. Dr. Kapoor credits her PPA involvement with helping her meet people with similar interests who are also passionate about pediatric patient care. Dr. Kapoor’s major interest is pediatric critical care, and she enjoys working in the PICU as well as the emergency department. As she transitions from resident to independent clinician, Dr. Kapoor hopes to become board certified, become more involved with PPA, and participate in future iterations of the KIDs list, given that her PGY1 major research project centered on its implementation at Le Bonheur Children’s Hospital.

words of Advice

“TAKE THIS TIME TO ABSORB AS MUCH AS YOU CAN! REMEMBER THAT YOU ARE A LEARNER AND RESIDENCY IS THE TIME TO EMBRACE YOUR LEARNING OPPORTUNITIES AS WELL AS BE AN ADVOCATE FOR YOUR PATIENTS. BUT MOST IMPORTANTLY DON’T FORGET TO HAVE FUN, TOO! MAKE TIME TO DO THINGS THAT ARE IMPORTANT TO YOU - EVERYTHING SHOULD BE A BALANCE.”

PPA Student Council

The original Student Council consisted of three members: the chair, chair-elect, and secretary. Since then, the council has expanded to include a networking chair, programming chair, and student chapter liaison. Working alongside the Members-in-Training Subcommittee chair, the student council serves as a liaison between PPA student members and the national organization. Over the last 5 years, the student council has helped to coordinate student programming at both PPA Fall and Annual meetings, organized student social events, and mentored many students. With the integration of virtual platforms, the council has continued to expand, offering new and larger events. For example, this year, the council was excited to host the First Annual Virtual PPA Student Group President Retreat.
This retreat was offered to student chapter presidents or other executive council members and featured discussions on topics such as recruitment, fundraising, and philanthropy led by pediatric pharmacists from across the country. Another new event organized and hosted by the student council this year was a virtual mock interview in preparation for residency application season. The student council would not be able to host such successful events without the support of pediatric pharmacists across the country. After asking for volunteer mock interviewers, the original sign-up sheet was filled within a few hours! Because of the impressive interest from pharmacists to serve as mock interviewers, the student council was able to expand the event to include second- and third-year pharmacy students.

PPA Student Council elections occur every fall, usually in September. Students who are interested in running for a position submit a short video on why they would like to serve in that position and what PPA means to them. Once all videos are collected, students from across the country are invited to view the videos and vote! The only criteria for a student to serve on the PPA Student Council is that they must be a national organization member. If you are interested in learning more, you can visit the Student Council PPA webpage under the Community tab as well as follow us on Facebook at “PPA Student Members” or on Instagram at “@ppastudents.” Most communication regarding Student Council events occurs through the PPA student listserv and social media.

If you would like to learn more about a specific position, please contact the following:
- Megan Fortenberry, Members-In-Training Subcommittee Chair – megan.fortenberry@uky.edu
- Eva Byerley, Student Council Chair – eva.m.byerley@ndsu.edu
- Amanda Zahn, Student Council Chair-Elect – Amanda.zahn@uky.edu
- Milre Matherne, Student Council Secretary – milre_m@yahoo.com
- Morgan Janes, Student Council Networking Chair – mljanes@uky.edu
- Autumn Spyhalsky, Student Council Programming Chair – amspyhal@buffalo.edu
- Emily Bennett, Student Council Student Chapter Liaison – emilynmbennett@ufl.edu
EXPERIENTIAL EDUCATION: Where engagement enables the transition from student to professional

Written By: Sarah Smith, PharmD, BCPPS & Amanda Capino, PharmD, BCPPS

This is the second installment of the three-part series focusing on student engagement. The first part of this series evaluated the validity of four long held myths: seating in the classroom, use of personal computers, audience response systems and formative assessments. In the following article we explore how group membership enhances student engagement during APPE’s and how educators can facilitate the transition from student pharmacist to interdisciplinary team member by focusing on professional identity formation.

Professional identity formation originates in the classroom with social interactions, peer support, and didactic instruction. The interaction with peers during and around class time provides support validating social interactions.[1] This interaction creates an environment where learners gain a sense of their common goals and shared experiences. Students become members of a group learning to be pharmacists and aspiring to gain membership in the profession. The classroom environment is a protected, consistent, and identity affirming space in time.[1] Learners’ membership as trainees builds relationships that over time advance professional identity formation. The membership creates value in the pursued identity and desire to “keep up” with other members resulting in a strong sense of intrinsic motivation. Learners share their experiences, empathize about challenges and stress related to the pursuit of their shared goals.[1] Peers offer solutions to help others overcome difficulties and assist other members in catching up should they fall behind.
Group membership is an important prerequisite of self-categorization and eventually professional identity. Group membership preserves or improves self-esteem and motivates individuals to modify their behavior to model the behavior of a successful “in-group” interaction or experience. Thus, group membership influences the self-perception of “who one is”. When coupled with instruction regarding the norms and standards of the profession, the professional identity is formed. Individuals aspiring to belong to a group more strongly identify a group’s dynamics and interplay during a trial period as opposed to once membership is obtained. This phenomenon can be seen in student pharmacists preparing for the pharmacy residency match. They ask to do projects, be part of research, and participate in extracurricular activities to show they belong to a particular pharmacy resident group.

The classroom is a unique time for student pharmacists as it is a place where they can easily engage other pharmacists. Once students enter the experiential component of the program, they often find themselves as the only pharmacist on an interdisciplinary team. The student is no longer a member of a group of similarly situated student pharmacists in training but now must transition to the role of student pharmacists within an interdisciplinary health care team. The learner must adapt to standing out while fitting in with a diversified group of health care providers. The binding commonalities in the student pharmacy group are no longer as accessible for a source of motivation. During this transition period finding their ‘fit’ into the group is paramount for the continued development of a strong and unique professional identity.

The way team members treat the student pharmacist can further the development of learner’s identity. If the group treats the student pharmacist as a member, an insider, the student will experience “fit” and avoid the feeling of isolation. As preceptors, demonstrating the relevance of a pharmacist member to the interdisciplinary team highlights the value of and the need for the skills pharmacists possess. Preceptors rounding with the team and the student pharmacists for the first few days can ease the adjustment for the student pharmacist.

Using formal introductions of the student pharmacists to the team members provides a moment for the exchange of contact numbers and confirmation of when and where daily rounds will begin. This creates an expectation for the team that the student pharmacist is a member. This also provides team members with an opportunity to redefine themselves as an interdisciplinary health care team. Reinforcing group categorization as healthcare providers emphasize the similarities between each member and the group’s common goal. Sharing commonalities with other members increases the perception of fitting in improves motivation, resolve, and wellbeing. The interdisciplinary arrangement also provides an opportunity for standing out while fitting in. The experience of being a valued team member through offering various perspectives emphasizes the benefit of having multiple disciplines work together to achieve the desired outcomes.

A thorough orientation will prepare student pharmacists for fulfilling the expectations the group has for the student pharmacist role. This is especially important for short experiences. Providing students with clear instructions on how to prepare for rounds
such as electronic health record tutorials, creating a list of items they should be able to report on for rounds, and a list of team member names and photos can ease anxiety and allow students to concentrate on their role. The sharing of information with student pharmacists several days ahead of time allows the opportunity to practice and familiarize themselves with their new role as part of a team. As the preceptor your preparation of the student pharmacists for the role they have as a team member quickens their “fit” as a team member and transfers expectations of the pharmacist role onto the student pharmacists. The desire of the pharmacy student to fulfill the role and “fit” creates the intrinsic motivation necessary to quickly assimilate as a team member.

Students transitioning to the experiential curriculum are “APPE ready”. They have completed all required didactic coursework at a minimum level of competency and have demonstrated level two ability to perform Entrustable Professional Activities (EPA) on the five stages of development scale.[6] (see Table 1) EPAs are defined as responsibilities/tasks pharmacists are expected to be able to do; they are units of work.[6] Preceptors expect APPE student pharmacists to perform EPAs at a level two, which means performing the task under the direct observation of a pharmacist. Moving a learner from direct observation to independently executing an activity is the cornerstone of transitioning the professional identity of a student to a practice ready professional. Incorporating core EPAs with the developmental scale to measure entrustment as an evaluation tool enables clear communication to the student about their developmental trajectory.

<table>
<thead>
<tr>
<th>Stage of Development</th>
<th>Level of Autonomy</th>
<th>Role of Supervisor/Preceptor</th>
<th>Expected Achievement of level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Has very limited knowledge and insufficient skill to perform the activity, even with assistance</td>
<td>Perform activity while trainee observes</td>
<td>IPPE student</td>
</tr>
<tr>
<td>Level 2</td>
<td>Allowed to perform the activity under direct observation; supervisor determines when and where a task will be performed</td>
<td>Directly and proactively supervises trainee performing the task</td>
<td>“APPE Ready” student</td>
</tr>
<tr>
<td>Level 3</td>
<td>Able to independently execute the activity when assigned by supervisor; trusted to ask for help</td>
<td>Indirectly supervises trainee; readily available while trainee performs task</td>
<td>APPE student able work independently</td>
</tr>
<tr>
<td>Level 4</td>
<td>Trusted to independently perform the activity; seeks guidance when needed</td>
<td>Reactively and intermittently supervises; available at a distance; reviews performance at periodic intervals</td>
<td>“Practice ready” pharmacist Post Graduate Year 1 Resident (PGY-1)</td>
</tr>
<tr>
<td>Level 5</td>
<td>Able to skillfully perform the activity; trusted to independently determine what tasks should be performed; can supervise others</td>
<td>Sets overall expectations and goals; annually reviews performance</td>
<td>Pharmacist with experience</td>
</tr>
</tbody>
</table>

Adapted from Haines S, AJPE 2017; 81(1)
Core EPAs are classified into six different domains: “Patient Care Provider,” “Interprofessional Team Member,” “Population Health Promoter,” “Information Master,” “Practice Manager,” and “Self-Developer.” These EPAs are classified as “core” since all pharmacy graduates are expected to demonstrate achievement of level four, indicating they are practice ready. Appendix 1 of AACP’s Core Entrustable Activities for New Pharmacy Graduates includes specific EPAs under each domain and examples of activities that correspond to each EPA. While the examples provide guidance on tasks that pharmacists should be able to complete, these are not representative of the units of work pharmacists do to care for pediatric patients. Table 2 provides examples of the EPAs and the related activities pharmacists do when caring for pediatric patients. These examples are intended as a guide for preceptors to use when evaluating the level of trust a student pharmacist has earned during pediatric rotations.

Table 2. Examples of EPAs

<table>
<thead>
<tr>
<th>AACP’s Core EPAs</th>
<th>Suggestions on Incorporation of EPAs into Pediatrics APPEs</th>
</tr>
</thead>
</table>
| “Collect information to identify a patient’s medication-related problems and health-related needs” | • Orient the learner to specific criteria they should review when working-up patients (e.g., age, past medical history including if premature, medications currently on including mg/kg dosing, pertinent labs, urine output)  
• Have learner present these parameters each day on the patients they are reviewing and provide feedback throughout the rotation |
| “Analyze information to determine the effects of medication therapy, identify medication-related problems, and prioritize health related needs” | • Orient the learner to specific criteria they should analyze when working-up patients (e.g., mg/kg dosing, dosing for specific indication and patient specific parameters, determine creatinine clearance using pediatric specific information)  
• Have learner present their assessment each day on the patients they are presenting and provide feedback throughout the rotation |
| “Maximize the appropriate use of medications in a population” | • Conduct a topic discussion with learner to discuss medications with warnings/precautions in pediatric patients  
• Have learner identify any medications that may be inappropriate for their patients and discuss if a change is needed |
| “Ensure the patients have been immunized against vaccine-preventable diseases” | • Have learner review the vaccine schedule for pediatric patients  
• Have learner identify and communicate with the team immunizations that their patients need |
| “Educate patients and professional colleagues regarding the appropriate use of medications” | • Conduct a topic discussion with learner to discuss medications with warnings/precautions specific to pediatric patients  
• Have learner present an in-service to medical teams |
Self-evaluation is important for the future development of professional identity and is a skill that should also be cultivated and assessed. Finally, work with the learner to create an action plan to improve the specific skills discussed.[8] Maintaining the engagement of the learner in the activity is essential for proficiency to be cultivated.

Repetition of the EPA will allow for incorporation of feedback, additional practice to improve essential skills, and for the continued observation of growth. Professional identity formation is a process without end. Professionals should continue to evolve, learn, and grow as the profession is a dynamic state of being. Individual members of the profession can continue to engage with the profession through membership in professional organizations. These memberships are not limited to the licensed pharmacists but encourage student pharmacists to join and get involved. Organizations embody the goals, traditions, and future of the pharmacy profession. In the final part of this series, the importance of engagement in professional organizations will be explored.

References:
**Take-aways**

ASHP recommends a multidisciplinary medication safety team that can provide a collaborative and systematic approach to address medication safety issues.

A pharmacy department may not have the resources available to form and sustain a pharmacy-driven medication safety committee. The authors describe an approach utilizing Medication and Safety pharmacy fellows to maintain a medication safety committee.

The pharmacy fellows coordinate together to investigate medication-related events. The fellows meet monthly with a faculty preceptor to analyze, categorize (using the NCC MERP categorization index), and identify which step in the medication use process the error occurred. The fellows will lead discussions, identify the root cause, and develop action plans pertaining to the events.

The pharmacy fellows co-chair the MSSC of P&T committee. The multi-disciplinary team will meet monthly to focus on reporting and discussing adverse drug events, safety improvement plans, error prevention strategies, and emerging safety data.
The pharmacy fellows co-chair the medication safety subcommittee (MSSC) of the pharmacy and therapeutic (P&T) committee. The multi-disciplinary team will meet monthly to focus on reporting and discussing adverse drug events, safety improvement plans, error prevention strategies, and emerging safety data. The duties of the pharmacy fellows for the MSSC include leading and coordinating the meeting, creating the agenda, formulating the slide set, taking notes, preparing meeting minutes, and providing a summary of the meeting to the P&T committee. In addition, the fellows and preceptors will review the Institute for Safe Medication Practices (ISMP) newsletters, quarterly action agendas, and targeted medication safety best practices to identify safety concerns for discussion at the MSSC.

It was noted that the challenges for sustaining this approach to maintaining a medication safety committee include potentially hiring newly licensed pharmacists that are still gaining their clinical knowledge, fellows having difficulty identifying contacts to investigate the medication safety events, and the need for continued financial support of the fellowship. While this method to sustaining a medication safety committee may not be feasible for pharmacy departments without postgraduate fellows or residents, another approach could be rotating the creation of the agenda with the pharmacy staff. Alternatively, pharmacy departments could utilize advance practice pharmacy students, nursing students, and/or medical residents to coordinate the medication safety committee.

References:
The operating room (OR) environment is a place where the most invasive treatment takes place. High risk medications are used with the main route being intravenous and the effects being immediate. Common medication errors reported in the OR are wrong medication and wrong dose.

The aim of the study was to prevent medication related errors in the operating room by clarifying the association between the medication error categories with related medications and contributing factors. They used data from the Japan Council for Quality Health Care’s open database (JCQHC-DB). JCQHC-DB collects information on medication errors including near misses and medical adverse events.

Medication errors were classified as either incorrect dose, incorrect medication, incorrect route of administration, administration of allergic- or adverse-reaction-inducing or contradicting medication, omitted medications extravascular or route leakage, repetition and others.

The most common medication error category was incorrect dose. See Figure 1 for further breakdown.
The most common medication involved was cefazolin (n= 48) followed by fentanyl (n= 36), remifentanil (n=31), and rocuronium (n=23). Of all the medication errors, “antibiotics” was the most common related medication category.

The most common associated factor in all cases was “neglecting to check” prior to administering (n =439). See Figure 2 for further breakdown. The people involved in error were nurses (n=311) or doctors (n=209) with the person’s experience > 2 years in majority (n=382) compared to < 2 years’ experience.

Strategies to avoid errors recommended by the authors include increased medication education and training for OR staff, independent double checks for medication name, dose, and volume, use of checklists and guidelines, close monitoring of pulse and blood pressure to ensure appropriate analgesia, standardized dose preparation and labeling, repeat back orders to ensure understanding, and share allergy and adverse drug event history with all members of the surgical team. Limitations to the study include reporting bias since the database was voluntary.

Overall, this study does highlight the risk for medication errors and likely contributing factors in the operative setting.[1]

Relying on voluntary reporting likely indicates that errors are underreported.[2,3,4] The operative setting is unique and fundamentally different than patient care units. There is often no pharmacist review of medication order prior to administration, verbal communication occurs regularly, barcode medication administration to confirm right medication and dose is rarely available, and automated dispensing cabinets do not select and dispense medications for each patient based on provider orders and pharmacist verification.[1,5] Completing the ISMP Self-Assessment for Perioperative Setting® for your institution and subsequently looking for high leverage, best practices to implement is highly encouraged.

References:
3. Merry AF, Webster CS, Hannam J et al. Multimodal system designed to reduce errors in recording and administration of drugs in anaesthesia: prospective randomized clinical evaluation. BMJ. 2011; 343:D55443
5. ASHP Guidelines on Perioperative Pharmacy Services
KidsMeds brings together the over 1,000 pediatric pharmacists to provide the latest information regarding pediatric medications.
Our members are the pediatric medication experts and are equipped with the training and knowledge to help. Our members have advanced training in the areas of pediatric pharmacy, pharmacology, and therapeutics.

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Wed, March 9, 2022 | 2:00 PM - 3:00 PM CT

**QT Prolongation**
Wed, April 13, 2022 | 2:00 PM - 3:00 PM CT

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In search of a pediatric residency?

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