

# NEWS Letter

2022-2023



Sanford Pharmacy  
Residency



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# Current PGY2 Critical Care Resident

## Sam Markle

- *Hometown:* Bismarck, ND
- *Pharmacy school:* North Dakota State University
- *Career Plans Post-Residency:* Staying on at Sanford as an ICU/EM Clinical Pharmacist
- *Hobbies:* Travel, hiking at national parks, biking, exercising
- *Fun fact about yourself:* Huge fan of name-brand soda and Space Aliens
- *Favorite memory from residency:* Attending SCCM in San Francisco and meeting the one and only Dr. Glaucomflecken



## Research

- Compared outcomes between anticoagulant reversal with 4F-PCC and a no-reversal strategy among patients with mild TBI and intracranial hemorrhage.
- A no-reversal strategy resulted in more favorable hemorrhage stability rates, indicating safety in this approach for select patients presenting to the ED.

## MUE

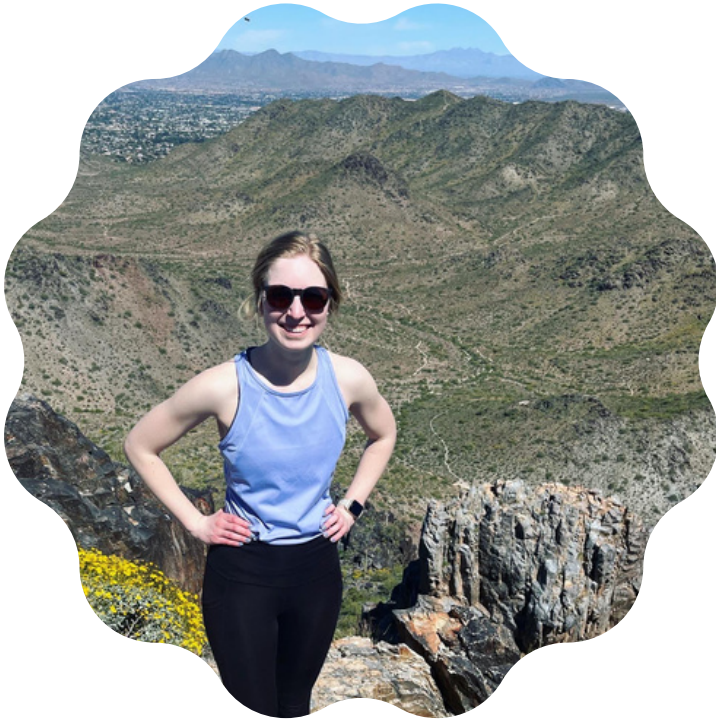
- Evaluated clinical and operational outcomes with a change from a multi-syringe to single-syringe protocol for inhaled epoprostenol administration.
- The single-syringe protocol resulted in greater attainment of the target epoprostenol dose (50 ng/kg/min) and improved PaO<sub>2</sub>:FiO<sub>2</sub> ratios despite similar cost considerations.

## Med Safety

- Analyzed current emergency-use medication supply and utilization throughout the medical center, determining changes necessary for safe medication use and rapid retrieval in emergencies.
- Updated ADC inventory and override lists to optimize medication availability.
- Expanded existing rapid response trays for the addition of amiodarone loading doses and updated the workflow for rapid response medication delivery.

# Current PGY2 Oncology Resident

## Ellen Hulterstrum



- *Hometown:* Litchfield, MN
- *Pharmacy school attended:* South Dakota State University
- *Career plans after residency:* Oncology pharmacist at Sanford/RMCC
- *Hobbies outside of work:* Traveling, hiking, cooking, reading
- *Fun fact about yourself:* My favorite (only?) thing I order from the SMCF cafeteria is a crispy chicken wrap
- *Favorite memory from residency:* Getting to go to HOPA, my first in person national pharmacy conference in sunny Phoenix!

### Med Safety

- Continued work from last year on developing a second sign process which will ensure oncologist approval on oral chemotherapy meds ordered inpatient.
- Created an orderset to provide decision support to enhance management of immune-related adverse events. Build is in process and hopefully will be live this summer.

### MUE

My MUE was evaluating the cost and effectiveness of Cosela (trilaciclib), a new agent intended to prevent chemotherapy induced myelosuppression. Available clinical literature and review of current use in Fargo found that due to cost and limited improvement over pegfilgrastim, there is not a need to build trilaciclib into eligible beacon plans.

### Research

My research project was entitled Real World Analysis of Abiraterone Dosing Strategies. I evaluated radiographic and PSA progression free survival outcomes in patients taking the standard dose of abiraterone 1000 mg on an empty stomach, compared to an alternative dosing strategy of 250 mg with food. One phase II study previously reported on this alternative dosing regimen, which has led to the use of this strategy in some situations in order to minimize financial toxicity. The results of this study showed similar progression free survival outcomes amongst both groups, adding evidence to the small amount of existing literature supporting this alternative dosing regimen.

# Current PGY1 Ambulatory Care Resident

## Adwoa Adjekum

- *Hometown:* Accra, Ghana
- *Pharmacy school attended:* North Dakota State University School of Pharmacy
- *Career plans after residency:* Joining the Specialty Pharmacy Team!
- *Hobbies outside of work:* Reading, traveling and trying new restaurants
- *Fun fact about yourself:* I had a goal to read 100 novels within a calendar year. I finished the 100th book on Dec 31st in the car while on my way to ring in the New Year!
- *Favorite memory from residency:* Hanging out with co-residents at a speakeasy and getting excited about flaming drinks after MPRC activities



## Research

Assessing the increased risk of lower limb amputations (LLA) in patients diagnosed with type 2 diabetes and peripheral vascular disease initiated on a sodium glucose cotransporter-2 inhibitor (SGLT2i). Based on preliminary results, the initiation of an SGLT2i was not associated with increased risk of LLA in patients concomitantly diagnosed with both diagnoses. This research adds to existing literature on the safety of SGLT2i in patients within this population.

## MUE

Compared the rate of inpatient vs outpatient naloxone prescribing based on the types of BPA between both groups. Also, assessed the number of naloxone prescriptions received at Sanford retail pharmacies and naloxone dispense rate to patients. Overall, there is a low number of naloxone prescribed in the outpatient clinics and low dispense rate among Sanford Pharmacies. The information aided in the implementation of pharmacist naloxone prescribing in the Sanford Retail pharmacies (still in the works).

## Med Safety

- Developed an EPIC integrated de-prescribing report to help outpatient providers de-prescribe medications in elderly patients due to inappropriate or risk for falls. The report provided pharmacist based recommendations and is currently in production.
- Evaluated outpatient prescribing to assess the use of free text entries when writing directions for prescriptions. The most common medications identified are in production with IT to create an outpatient dermatology compound panel for ordering those compound medications.

# Current PGY1 Pediatric Resident

## Josh Collett



- *Hometown:* Hutchinson, MN
- *Pharmacy school:* South Dakota State University
- *Career plans after residency:* NICU, PICU, and EM pharmacist with a secret love for infectious disease
- *Hobbies outside of work:* Hanging with my baby, breweries, board games, acting like I know how to cook
- *Fun fact about yourself:* Despite my excessive love for espresso, I managed to make it through the year without a cardioversion
- *Favorite memory:* Impromptu resident bonding/therapy sessions with fellow residents in and outside of work

### Med Safety

- Created an updated paralytic order panel and workflow for critically ill children, with a specific focus on maintaining safe and adequate levels of sedation for these patients
- Evaluated the proper tier-based approach of medication placement within the order interface to provide a template for future medications, ensuring vital medications are both orderable and dispensable for providers in a variety of contexts, settings, and locations.

### MUE

Evaluated dosing and timing of medications utilized in pediatric status epilepticus to facilitate improvements in workflow to ensure rapid timing and proper dosages are administered to patients in need. As a result, ERx changes and an order panel were built to ensure that providers have rapid access to the most appropriate therapy in order to improve patient outcomes.

### Research

- Studied the clinical impact of traditional, higher dosages of IV methylprednisolone in critically ill children with status asthmaticus in comparison to guideline-recommended dosages that were broadly established in an outpatient setting.
- Overall, no difference was found between the two dosing schemes in regards to hospital and PICU length of stay, mortality, etc. This study fills a novel question that has frequently been asked in surveys and list serves, but has not been formally answered in clinical data

# Current PGY1 Traditional Resident

## Jarod Burnside

- *Hometown:* Fargo, ND
- *Pharmacy school attended:* NDSU
- *Career plans after residency:* Overnight Emergency Medicine Pharmacist at Sanford
- *Hobbies outside of work:* Spending time at family lake cabin in the summer, golf (even during the winter at indoor simulators!), breweries
- *Fun fact about yourself:* My father and sister are also pharmacists in the FM area!
- *Favorite memory from residency:* Co-Resident bonding at ASHP Midyear/MPRC (Las Vegas, NV / Omaha, NE)



## Med Safety

- BUD: Meds that are to be kept in original containers create workflow concerns for inpatient dispense. This project evaluated medications that have either a shortened BUD upon opening of stock bottle or have a shortened BUD when removed from original packaging and how to operationalize their use for inpatient dispenses.
- NSOCL: Identified safety strategies for non-sterile controlled liquids with variable concentrations to limit "factor of 10" errors or other potential dispensing/administration errors.

## MUE

C. Diff diagnostic stewardship – Sanford changed from a 1-step to 2-step C. diff diagnostic pathway. This MUE analyzed opportunities for high-yield pharmacist interventions within the new C. diff testing format. Analytics showed an ASP-focused review of discordant C. diff results (+ PCR, - Toxin) gives the best opportunity and workflow for pharmacist intervention on inappropriate testing or treatment.

## Research

- Meropenem exhibits time-dependent bactericidal activity and proposed alternative dosing strategies theoretically optimize PK/PD, but lacks robust clinical correlation. This study looked to determine if a dosing regimen of meropenem 500 mg IV every 6 hours vs 1,000 mg IV every 8 hours, both infused over 3 hours, leads to differences in clinical outcomes in infections with microbiologic proven need for meropenem.
- In this small, 2-center review of patients with standard microbiologic proven infections, an alternative meropenem dosing regimen did not show differences in clinical outcomes as compared to a traditional regimen. More research, especially in an ICU population with fluctuating renal function, is needed.

# Current PGY1 Traditional Resident

## Madeleine Koenig



- *Hometown:* Lincoln, NE
- *Pharmacy school attended:* University of Nebraska Medical Center College of Pharmacy
- *Career plans after residency:* I will be headed back home to work as an Inpatient Internal Medicine Clinical Pharmacist at Bryan Health in Lincoln, NE
- *Hobbies outside of work:* long bike rides, running, reading, and trying new recipes with my husband
- *Fun fact about yourself:* I made it through my first Fargo winter with my ancient manual transmission vehicle
- *Favorite memory from residency:* Getting to showcase research at Midyear in Las Vegas and MPRC + all of the good food, fun, and laughter that came with those trips

### Med Safety

My med safety project looked at improving safety surrounding ordering and use of all transdermal patches and blood factor products. I identified several safety opportunities for the current eRx build which will be brought to Enterprise Med Safety.

### MUE

For my MUE I assessed the organizational compliance of non-oncology rituximab use to our guidance document. I identified an indication to add to the guidance document and opportunities to facilitate greater outpatient use of rituximab when clinically appropriate as a cost savings measure. These recommendations will be brought forward at P&T.

### Research

My research looked at indomethacin exposure and the incidence of intraventricular hemorrhage (IVH) and time to full enteral feeds in the NICU. Sanford Medical Center Fargo and Sanford in Sioux Falls take different approaches to preventing IVH with SMCF using indomethacin-based approach and SMC using conservative management. I found that the incidence of IVH was actually higher at SMCF but we had less patent ductus arteriosus (PDA) and GI complications. I will be sharing these findings with the neonatologist group at SMCF to help facilitate future directions in premature neonatal care!

# Current PGY1 Traditional Resident

## Jennifer Spadgenske

- *Hometown:* Menahga, MN
- *Pharmacy School:* NDSU
- *Career plans after residency:* PGY2 in Critical Care at Hennepin County Medical Center in Minneapolis
- *Hobbies outside of work:* Running, hiking, anything to do with the lake, and enjoying the FM area breweries
- *Fun fact about yourself:* Each summer I test if I am still young by solemn skiing; jury is still out for 2023
- *Favorite memory from residency:* Getting to know my fellow co-residents and spending the week exploring Vegas with them at Midyear and the countless witching hour talks between 4-5 pm in the residency area



### Research

“The Impact of High-dose Fentanyl Infusions on the Incidence of Delirium and Ileus in Critical Ill Medical Patients” evaluated doses of fentanyl infusion and how they related to adverse effects. We found no difference between low-, moderate-, and high-dose fentanyl infusions. Along with low rates of ileus and chronic opioid use post ICU in patients supporting the notion that an analgo-sedation strategy of sedation is safe for our patients in the MICU.

### MUE

We evaluated the use of Remdesivir in patients, considered risk factors for worsening infection, total duration of hospitalization, and duration of symptoms to evaluate if patients met criteria for treatment. Found that many patients discharged prior to completion of therapy and proposed utilization of Paxlovid for patients hospitalized for comorbidities beyond COVID. This process will be considered later when the reimbursement changes for Remdesivir.

### Med Safety

- The Penicillin Oral Graded challenge project evaluated a strategy to implement a challenge process for low-risk penicillin allergies in our hospitalized patients. There is an order panel in process to help guide practice in which allergies can be challenged and which need to avoid beta-lactams. There was also an update to the antimicrobial pocket guide to include tools for pharmacists' ability to navigate penicillin allergies with a cross reaction table and considerations on when to challenge.
- Not all of our intermittent infusions take into account drug volume in the total volume on our IV labels resulting in patients receiving less than intended doses of critical medications. In this project we evaluated high risk intermittent infusions and have improved build to include the drug volume of these compounded IV infusions to ensure nursing is able to have an accurate total volume.



# Current PGY1 Non-Traditional Resident

## Melissa Gilbraith



- *Hometown:* Fargo, ND
- *Pharmacy school attended:* NDSU
- *Career plans after residency:* I will be permanently crossing over from the dark side on overnights to day shifts with stretches of 7P sometime later this summer!
- *Hobbies outside of work:* Attempting Pinterest crafts with my Cricut and spending time with family/friends
- *Fun fact about yourself:* I pulled the fire alarm for a Sanford fire drill! See the before picture on page 16!
- *Favorite memory from residency:* I have been so lucky to have made many memories with 11 co-residents! Getting to each of them and supporting each other has been one of the biggest rewards of residency!

### Med Safety

- Updated list of medications approved for autoverification in the ED to ensure a balance of medication availability and safety. Resulted in the removal of over 90 meds from autoverification!
- Worked to ensure patient and caregiver safe handling of hazardous prescriptions in retail settings by updating counseling expectations for Sanford retail spaces as well as updating outpatient prescriptions to alert non-Sanford pharmacies to low and high risk cytotoxic medications.

### MUE

- Reviewed reverse distributor process with Inmar and worked to reduce cost of waste for medications they cannot take.
- Additionally, reviewed data of medications sent to Inmar in 2019-2021 to identify opportunities to reduce amount of large cost drugs wasted.

### Research

- This study sought to evaluate safety and efficacy outcomes of switching standard post-procedure TAVR antithrombotic therapy from dual antiplatelet therapy to single antiplatelet therapy OR (when patients have existing indication) oral anticoagulation plus an antiplatelet agent to oral anticoagulation alone.
- When comparing DAPT to SAPT, a numeric trend in decreased major bleeding paired with a statistically significant decrease in minor bleeding demonstrated a potential increase in safety with changing to SAPT post-TAVR. Additionally, no difference in thromboembolic events suggests retained efficacy when using SAPT. The oral anticoagulant groups were too small to draw any strong conclusions.

# Incoming Residents

## Cameron Sofia

- PGY2 Critical Care Resident
- *Hometown:* Huntley, Illinois
- *Pharmacy school attended and PGY-1 completed:* Purdue University, Memorial Hospital of South Bend in South Bend, IN
- *Career ambitions:* Board certified ICU pharmacist and eventually ICU preceptor for students/residents
- *Hobbies outside of work:* Video/board games, reading, anything Marvel related, finding new places to explore
- *Fun fact about yourself:* I am the first in my family to get a degree from a university and work in the medical field!
- *What are you most excited for in completing your PGY-2 at Sanford?* The opportunity to strengthen my clinical and teaching skills, while also having the opportunity to explore and experience a brand new city and area!



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## Fatme Younes



- PGY1 Ambulatory Care Resident
- *Hometown:* Beirut, Lebanon
- *Pharmacy school attended:* NDSU School of Pharmacy
- *Career ambitions:* Work one on one with patients and their providers to achieve better health outcomes with their medications. Also, work with management/quality assurance to ensure pharmacists high standard of care and ultimately positive patient outcomes, safety & satisfaction.
- *Hobbies outside of work:* Hiking, Houseplants hobby ("biophilia"), gardening
- *Fun Fact about yourself:* I am originally Lebanese, born in Africa (Ivory Coast), schooled in Canada (Montreal), am incapable of walking bare feet (even indoors), and speak French and Arabic
- *What are you most excited for in completing your residency at Sanford?* Tap into an established ambulatory care pharmacy practice and build relationships with patients & providers

# Incoming Residents

## Morgan Schrage

- PGY1 Pediatric Resident
- *Hometown:* Cresco, Iowa
- *Pharmacy School:* Drake University
- *Career Ambitions:* NICU Pharmacist
- *Hobbies outside of work:* quilting, bike riding, reading, dirt track racing with my family, and any adventures with church friends!
- *Fun Fact about yourself:* I had a an ESA cat named Wriglea Rose that did all of undergrad and pharmacy school with me, including all of COVID school! She has her own white coat and is the best pharmacist kitty!
- *Most Excited for:* Moving to a new place to continue to grow my knowledge in all things pediatric pharmacy from the amazing pharmacists at Sanford!



## Trent LaCanne

- PGY1 Traditional Resident
- *Hometown:* Windom, MN
- *Pharmacy school attended:* SDSU
- *Career ambitions:* Current interest areas include critical care, infectious disease, leadership, and academia. I am also interested in completing a PGY-2
- *Hobbies outside of work:* Losing in fantasy football, water sports/fishing, ukulele shredding, obtaining unique certifications, and telling bad jokes
- *Fun fact about yourself:* I learned the Napoleon Dynamite dance and to breathe fire for a Mr. Pharmacy talent show
- *What are you most excited for in completing your residency at Sanford?* Diverse clinical experiences at a level I adult trauma center, engaging and dedicated preceptors, research, and leadership development

# Incoming Residents

## Abby Leitch

- PGY1 Traditional Resident
- *Hometown:* Mankato, MN
- *Pharmacy school attended:* University of Minnesota - Duluth
- *Career ambitions:* I am hoping to pursue a PGY2 in Infectious Diseases and earn a board certification
- *Hobbies outside of work:* playing/coaching volleyball, exploring new coffee shops, exercising
- *Fun fact about yourself:* I have a two-year-old dog named Arthur!
- *What are you most excited for in completing your residency at Sanford?* I am most excited to apply and expand upon my clinical knowledge through the many specialized rotations offered



## Rebecca Aubart

- PGY1 Traditional Resident
- *Hometown:* Colgate, ND
- *Pharmacy School Attended:* NDSU
- *Career Ambitions:* Pharmacy administration and leadership focusing on health systems management, operations management, medication safety, and more. I also want to continue to grow as a clinical pharmacist with an emphasis on acute adult medicine.
- *Hobbies:* I enjoy reading (especially for my monthly book club), gardening, board games, biking, and travel
- *Fun Fact about yourself:* I'm an identical twin!
- *What am I most excited for in completing my residency at Sanford?:* As a long time intern at Sanford Health Fargo, I'm excited to step into the role of pharmacist with the group of mentors and leaders I have come to know and work with over the years. I'm looking forward to expanding my research interests and getting to be a part of a great resident team!



# Incoming Residents

## Janie Lundberg

- PGY1 Non-traditional Resident
- *Hometown:* Elk River, MN
- *Pharmacy school attended:* University of MN Duluth
- *Career ambitions:* I'm not sure where I'll end up. I enjoy doing a little bit of everything and am excited for clinical opportunities following residency
- *Hobbies outside of work:* I love spending time with my dogs Stella and Max, my boyfriend Nathan, friends and family. And I enjoy fishing, hunting, being outside, and going to concerts
- *Fun fact about yourself:* I know how to play the piano
- *What are you most excited for in completing your residency at Sanford?* Learning a lot and challenging myself clinically



## Snapshots from Residency Graduation Dinner



# 2022-2023 Preceptor of the Year

Each year the current residents vote for the preceptor of the year: a preceptor that has inspired and encouraged residents to work hard, develop their clinical skills, and provide safe and effective patient care.



**Maxx Enzmann, PharmD, BCPS, BCIDP**

### **Impact on this year's residents:**

- Precepted 2 Pharmacy Grand Rounds and assisted as a content expert for the Med Safety Pearls presentation
- Advised a med safety project that led to the creation of a new orderset and new resources for pharmacists
- Mentored 2 residents seeking to publish research
- Served as an ID rotation preceptor for nearly all of the residents
- Gave generously of his time as a resource and listening ear for the entire resident class whenever called upon for additional guidance and support
- ASP I-vent police and MIC Gremlin

### **Favorite aspect of precepting:**

The best part of my job is giving others the tools they need to succeed. Watching learners progress from hesitant and uncertain to confident and knowing where to go for information without my prompting is by far the most fulfilling aspect of precepting for me.

# Snapshots from the Year



# Snapshots from the Year





# Snapshots from Midyear



American Society of Health-System Pharmacists

10h · 🌐

No FOMO here – check out what’s happened during Midyear Clinical Meeting & Exhibition so far: <http://ashptv.com/777707448> #ASHP22



# Snapshots from MPRC



# PGY2 Conferences- HOPA and SCCM

