Clinical Pharmacist Spotlight: Clinical Assistant Professor and Critical Care Pharmacist

By: Madeline Burke, Pharm.D. Candidate

Trisha N. Branan, Pharm.D., BCCCP

What steps did you take to become a clinical assistant professor at UGA?

After completing my residencies, I worked in the Medical ICU in Augusta for 6 years and was a preceptor for many students and residents there. I also helped to develop the Critical Care PGY2 in Augusta before I left and took the position with UGA.

How did your residency training help prepare you for your career?

My residency really gave me a foundation of knowledge and skills within critical care. I feel my residency gave me great skills that can be carried into any clinical position.

How was the transition from student to resident to pharmacist to faculty?

Working for 6 years before entering academia allowed me to build a practice site and get real world clinical experience. This is helpful for bringing more context into the classroom and for me to identify what is most relevant.

What are your current academic and research interests?

I am currently interested in sepsis, infectious complications in critically ill patients, innovative teaching methods, scholarship of teaching and learning, and how critical care education is delivered throughout the country.

What is your current practice site and what is your role there?

I work at Athens Regional Medical Center in the medical and surgical ICUs. I take APPE students and do multidisciplinary rounds daily for about 12 patients. I am responsible for all pharmacotherapy related needs, monitoring, and adjusting medications as needed.

What is your favorite thing about your job here at UGA?

I love getting to interact with students all throughout the program, not just APPE students. I really enjoy watching them grow, change, and learn all throughout their time in pharmacy school.

Which professional organizations are you involved in and how have they helped you grow as a pharmacist?

I held a couple of leadership roles within Georgia Society of Health-System Pharmacists (GSHP), which gave me a sense of ownership and leadership in pharmacy. GSHP helped me understand different aspects of health-system pharmacy, legislative efforts, and the differences between health-system and community and outpatient pharmacy.

I am also a member of the Society of Critical Care Medicine, American Academy of Colleges of Pharmacy, and American College of Clinical Pharmacy, especially the Critical Care PRN.

(continued on page 2)
The Zika virus itself is a single-stranded RNA virus transmitted by the Aedes species mosquito. The Zika virus may also spread without the mosquito vector, either by sexual contact or maternal-fetal transmission. The presentation of Zika virus—fever, rash, joint pain and conjunctivitis—is fairly nonspecific and symptoms are usually mild and can last from several days up to a few weeks. It is difficult to differentiate Zika virus from other tropical viruses such as dengue and chikungunya, which all present in a similar manner. Of the three tropical mosquito related diseases, Zika most commonly presents asymptptomatically.

Currently, the best means to prevent transmission is through patient education, an area which pharmacists have a direct role. Travelers visiting an area with Zika should be advised to stay in places with air conditioning, window and door screens, and sleep under mosquito nets. When outside, travelers should use repellents such as DEET or picardin. Patients should be counseled to apply these products to both exposed skin and clothing. If also applying sunscreen, the sunscreen should be applied prior to repellent application. Permethrin, an insecticide, is tested and effective against the Aedes aegypti mosquito. Permethrin can be used in both pregnant women and children. Due to the potential for sexual transmission, safe sex practices should be used while traveling to Zika infected areas. Because the Zika virus commonly presents asymptptomatically and the exact duration of viremia is unknown, patients should continue to follow safe sex practices even after their return.
If a patient is infected with the Zika virus, treatment should include supportive care. The patient should receive adequate fluids to prevent dehydration, as well as fever and pain management. Aspirin and NSAIDs should be avoided until dengue is ruled out, as aspirin and other NSAIDs can increase the risk of hemorrhage in patients with dengue.

Entresto® (sacubitril and valsartan), manufactured by Novartis, was approved in July 2015 for the treatment of heart failure with a reduced ejection fraction (HFrEF). It is a combination of a neprilysin inhibitor (sacubitril) and an angiotensin II receptor blocker (valsartan).¹ On May 11, 2016, the ACC/AHA/HFSA published an update to the 2014 ACCF/AHA Guidelines for the Management of Heart Failure to include Entresto® as an alternate first line agent to an ACEI or an ARB for the treatment of HFrEF.² The drug approval and inclusion in the heart failure guidelines is based on the results from the PARADIGM-HF trial. This trial showed Entresto® to be superior to enalapril in reducing the risk of cardiovascular death or hospitalization (p<0.0001).³

Other Information¹
Do not use concomitantly with an ACEI or within 36 hours of last ACEI dose

Dosing: Start 49/51 mg BID then double dose after 2-4 weeks to a target dose of 97/103 mg BID as tolerated

Dose reduce if: not previously taking a low dose of an ACEI or ARB, severe renal impairment, moderate hepatic impairment

Contraindicated: History of angioedema

Side Effects: hypotension, hyperkalemia, cough, dizziness, renal failure

⁴. https://www.entrestohcp.com/dosing

Evidence based medicine is a systematic process in which clinical research is reviewed, analyzed, and applied to ensure patients receive optimal care. As research and technology advance, more and more clinical data comes to light. While there are numerous groundbreaking studies changing the way medicine is practiced, there are also many studies only used for reporting purposes. To help differentiate which ones are worth a reader’s time, drug information specialists have come up with two categories into which clinical evidence can be sorted: Patient Oriented Evidence that Matters (POEM) and Disease Oriented Medicine (DOE).

Both POEMs and DOEs are types of evidence-based medicine but they differ in the outcomes they measure. POEMs focus specifically on outcomes significant to the patient. Such outcomes are what patients are most concerned about due to the information being readily understandable and applicable to their lives. This is one step further than just patient-oriented evidence because we are now focusing on the outcomes that matter to patients. Most healthcare professionals prefer POEMs because they are what patients want to see and can change how medicine is practiced.

DOEs, on the other hand, stand for disease-oriented evidence. Disease-oriented outcomes refer to intermediate endpoints that are more concrete such as blood pressure and A₁C goals. These types of outcomes can be further extrapolated to patient-oriented outcomes. For example, concluding a decrease in blood pressure to a specific goal can result in a decrease in mortality. This is an instance where data can become misleading and difficult for patients to understand because not all extrapolations or generalizations of data may apply to them.

Determining whether evidence is a POEM or a DOE is critical in how the outcomes are applied. One method is to analyze whether the outcome evidence is assumed or known from clinical findings. Assuming overall survival will increase due to earlier diagnosis is a logical conclusion that we can make. However, it is considered a DOE rather than POEM until it is verified by conclusive evidence.¹

Healthcare professionals must embrace change and adapt new methods into their practice. Being able to identify which research is noteworthy and has the most beneficial impact on their patients is critical in the progress of healthcare. Distinguishing between a POEM and a DOE is crucial to the application of clinical research in regards to patient care. Identifying POEMs from DOEs can save critical time and provide the most appropriate care for each specific patient.

"I will embrace and advocate changes that improve patient care." Thus concludes the seventh of the eight lines that compose the oath of a pharmacist pledged by all new graduates of colleges of pharmacy across America. With the continual progression of technology inherent in the Information Age, the question arises: what are the actual effects on patients with advances like electronic prescribing? Programs, like New York’s newly completed I-STOP, aim to curtail overprescribing and remove illegibility from the pharmacist’s concerns but are not without their price. Are these benefits worth the cost of half the community pharmacist’s face-to-face patient interactions? The practice of pharmacy is evolving, but even evolution must be directed, in this case, ever toward improving patient care.

What is I-STOP? New York state’s pioneer attempt to address opioid overprescribing and overdose-related deaths, the Internet System for Over-Prescribing Act, or I-STOP, regulates narcotic access from the physicians’ side. Beginning in 2013, the act required physicians to reference the Prescription Monitoring Program (PMP) before writing a prescription for a Schedule II, III, or IV controlled substance and alluded to future legislation requiring the shift to electronic prescribing. Two years later, the New York State Department of Health was successful in supporting legislation to mandate electronic prescribing for all controlled and non-controlled medications in the state, but due to the logistical considerations in both physicians’ offices and pharmacies regarding the secure computer system requirements necessary to prevent unauthorized access, the deadline for these upgrades was extended for one year. As of March 27, 2016, however, electronic prescribing of all prescriptions is mandatory across the state of New York.

What does this mean for pharmacists and patients? Logistically, the process of filling prescriptions remains the same, but a drop-off window is now unnecessary as handwritten prescriptions are illegal and even oral prescriptions are allowed only in specified emergency situations with appropriate documentation; faxed prescriptions, however, are still allowed. Patients can specify their pharmacy of choice, but no provisions for “price shopping” have yet been made. A non-issue for patients with regular pharmacies, this specificity may be an unintended benefit for the pharmacist-patient relationship as patients will now be forced to take a more active role in their prescription healthcare both by calling individual pharmacies for prices if cost is of major concern and by having to find one pharmacy to call home, if for no other reason than convenience.

With regard to the pharmacist, the benefits are more mixed. Removing handwritten prescriptions from the equation streamlines the data entry portion of the pharmacy technician’s job, but this increase in efficiency comes at the cost of personal patient interaction. Moving forward, many New York pharmacists will now see the majority of their patients only at the point of dispensing, preventing them from performing initial triage or catching patient-specific issues not detailed in the patient’s profile before dispensing occurs. Pharmacists are the most accessible healthcare providers, and as such, should take care to constantly prioritize the patient, even as they incorporate efficient new technology.

New York is not Georgia, and the I-STOP legislation is not a federal mandate, so the impact of mandatory electronic prescribing has yet to be felt in Georgia. Since 2010, however, electronic prescribing of Schedule II-V controlled substances has been legal via DEA-authorized secure computer systems between registered prescribers and pharmacies, and an ever-increasing number of physicians are making this transition. As the effects of New York’s new mandate accumulate, Georgia may follow suit, but the voices of its community-based pharmacists must be heard advocating whether or not this new step in electronic efficiency is the most effective step in improving patient care.