



North Dakota Society of Health-System Pharmacists

Newsletter: December 2015, Volume 2, Issue 2

Events

Calendar

Hypertension and Hyperlipidemia: Using guidelines and health coaching to optimize patient outcomes

(0.1 CEU)

CDR Christel G. Svingen, PharmD, BCPS, NCPS
Pharmacist

12 Jan 2016 12:00 PM CST

See full details at: <http://www.ndshp.org/events>

Objectives for application-based NDSHP Drug Therapy Related CE series:

1. Describe how the presented topic impacts patient outcomes.
2. Review evidence based guidelines and best practices described.
3. Identify two clinical endpoints of the presented topic.
4. Recommend therapeutic means to achieve clinical endpoints.

Who: Pharmacists

Where: Webinar/ND BTWAN Units

Fees:

- \$10/CEU if CE credit is desired, fee is non-refundable
- If no CE credit desired, registrants can choose the "No CE credit needed" option

This program is sponsored by the North Dakota Society of Health-System Pharmacists and was initially released August 11, 2015. Attendance at the session and completion of the evaluation form will be required to receive CE credit. Universal activity number: 0047-9999-15-047-L01-P



North Dakota State University College of Pharmacy, Nursing, and Allied Sciences is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. Attendance at the session and completion of the evaluation form will be required to receive CE credit.

Pharmacy professionals can now obtain CE statements of credit on the CPE Monitor website.

Non-pharmacists will receive a noncredit transcript within 4-6 weeks of receipt of all evaluation materials.



Hello NDSHP Members!

Interest in NDSHP and health-systems pharmacy practice continues to grow throughout the region. As a result of our annual membership drive, NDSHP is excited to announce a **41% increase** in membership!

Health-system pharmacists play an important role in improving healthcare outcomes throughout the region. NDSHP strives to support our members in their relentless pursuit of safe and effective medication use. Our monthly networking and educational meetings continue to be a success. Check out the "Events" tab for more information on upcoming networking and educational meetings opportunities. Please contact us if you are interested in leading one of these events or if you have topic suggestions that will benefit health-system pharmacists in your region.

We are excited to announce planning for the 2016 Health-System Summit and Reverse Expo is underway. This year's event will be held March 3rd, 2016 at the Cambria Inn and Suites in Fargo, North Dakota.

The Health-System Summit portion will provide you with information about the practice of pharmacy from across the state of North Dakota. It will feature: findings from the Board of Pharmacy compliance officer, results of the Pharmacy Practice Model Initiative Hospital Self-Assessment, and several pertinent town hall discussions. The Reverse Expo provides an opportunity for you to consolidate meetings with many of the suppliers and industry sponsors you would meet with during the year to one convenient time. It also provides an opportunity for a limited number of exhibitor representatives to visit with you and other pharmacy colleagues. For more information on the Reverse Expo or the Health-System Summit check out: [Summit & Expo](#).

NDSHP continues to provide services that support health-system pharmacists in their pursuit of pharmacy practice excellence.

From all of us at NDSHP we wish you a safe and joyful holiday season,

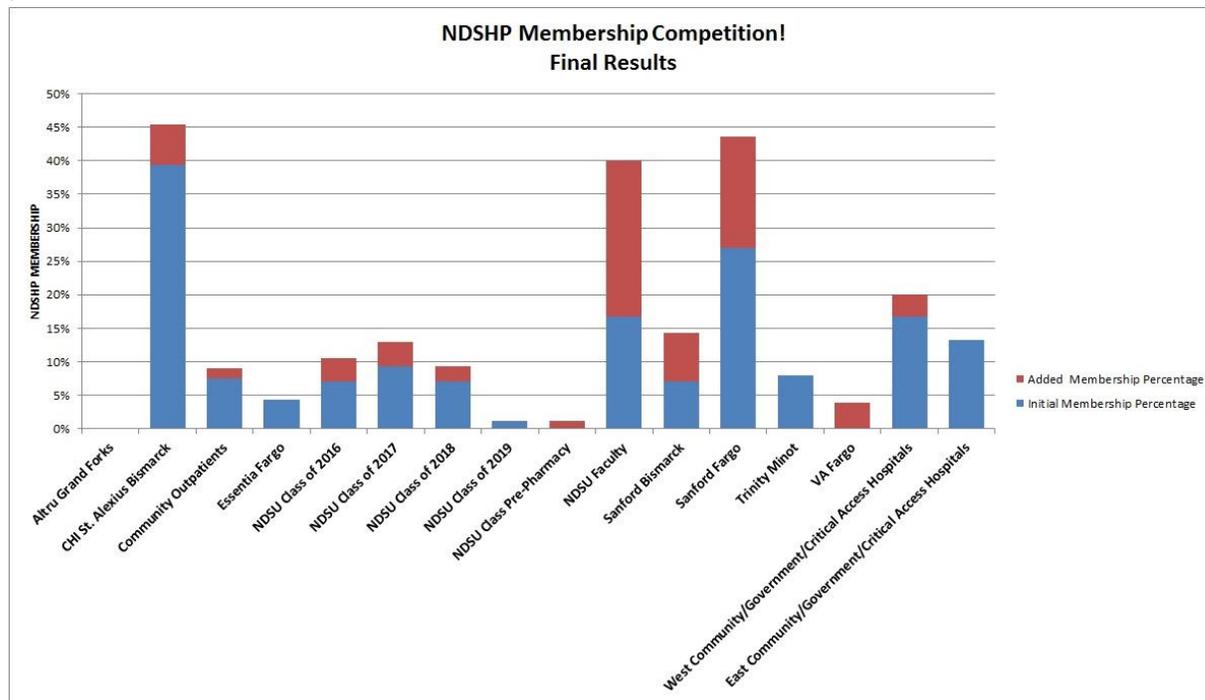
Nicholas (Cole) Helbling, PharmD, BCPS
NDSHP President



NDSHP Membership Drive: A Success!

During the months of September and October NDSHP had been involved in a membership drive competition. It was a valuable opportunity to spread the word about all the organization has been working towards. By the end of the competition we had 36 new members, putting our total membership over 100!

Congratulations to CHI St. Alexius! They ended the 2-month membership drive with 45.5% of their staff being members in NDSHP and were followed closely by Sanford Health Fargo at 43.6% and the NDSU Faculty at 40%



The last year has seen the expansion of NDSHP's member services. We went live with our website this past spring, which has proven to be an invaluable tool for connecting with people across the state and region. It serves as a platform for many activities including: online registration, member forums, and meeting information.

As you begin to see what NDSHP can do for you, consider what knowledge and skill you bring to the group. There are many areas to become more involved in, from leading a forum discussion to running for an officer position. If you have any questions or new ideas, please just let us know.

Members are the life force of any organization. As we look towards our future, it is our membership that will take us there. We couldn't be happier that you have joined us in our endeavor to elevate health-system pharmacy practice and patient care for the people in our region. There is a lot of good work being done across the state, and it's exciting to think how much more we can accomplish together.

Thank you and welcome to our new members!

Amber Olek, PharmD
NDSHP Secretary/Treasurer

Our Officers



Maari Loy, PharmD,
BCPS, MBA
Past-President



Cole Helbling,
PharmD, BCPS
President



Carolyn Seehafer,
PharmD
President-Elect

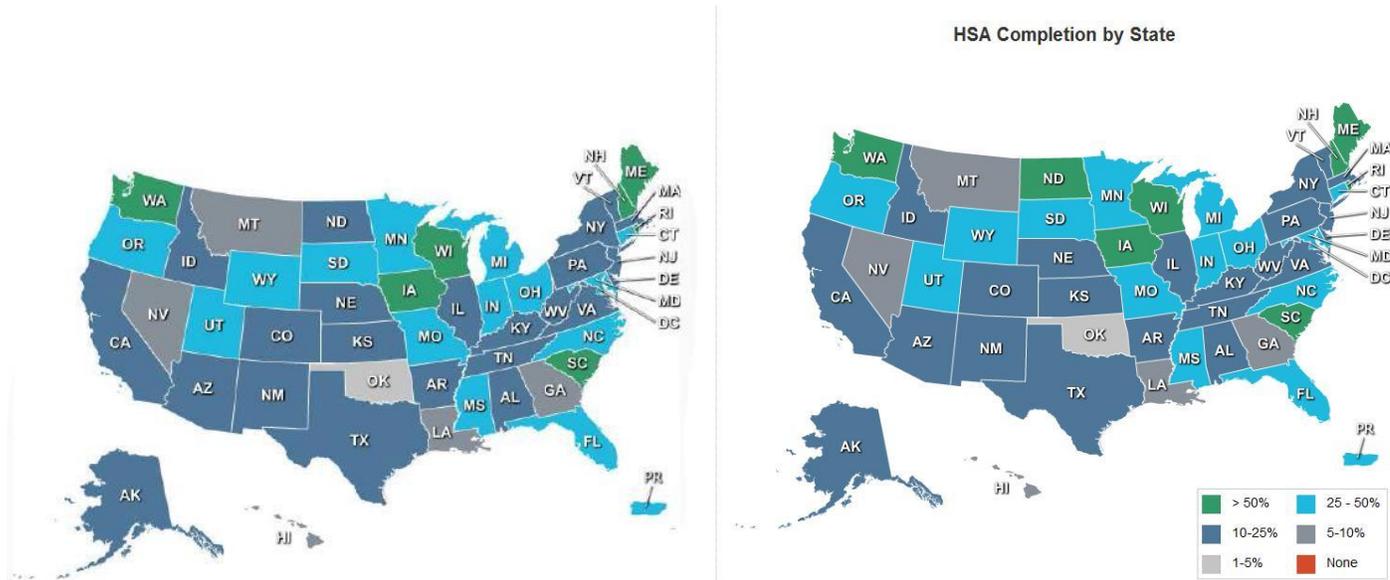


Amber Olek, PharmD
Secretary/Treasurer

Bison Surge Ahead in Marker of Pharmacy Practice Advancement

The North Dakota Society of Health-System Pharmacists (NDSHP) has made major strides in increasing participation in the ASHP Pharmacy Practice Model Initiative (PPMI), now called Practice Advancement Initiative (PAI), hospital self-assessment. We have over 75% of North Dakota hospitals in the completion column and pushing for 100% by the end of the year. We started in August with only 13%. Many hospitals have filled out the survey already, but if your hospital has not or if you are not sure please contact me, James Kallander, by email at james.c.kallander@ndsu.edu and I can inform you or schedule a time to complete the survey with you.

Below is the before and after, when my classmate Jackie Tellers sent out a newsletter in August and now in December 2015. The map from the PAI website depicts the percentage of completion of the hospital self-assessment by state. As you can see, we have changed by two colors and surpassed our neighboring states.



We have overcome many obstacles. The biggest obstacle that we have encountered so far is busyness. You are all so busy, working in a few different pharmacies and some pharmacists are the person working in the pharmacy of the hospital. You are stretched for time by your jobs. So we tried to find a way to make the survey easier. We found that by taking it with someone who has completed it a few times - the time it takes to complete is cut in half, a great time saver for your busy days. Furthermore, for every one of you that completes the survey, our completion rate increases by nearly 2%. With your help, we can get all the way to that 100%.

In addition to increasing survey participation, we wanted to show an analysis of ND pharmacy services, compared to aggregate national health-system pharmacy data. Therefore, we submitted a poster abstract to ASHP to present our findings at Midyear 2015. The great news is that we were selected. We presented our findings in New Orleans, LA, on Monday December 7, 2015 at 10:45 to 11:45. The self-assessment is designed to advance pharmacy practice, and streamline initiatives in health-system pharmacy. There are a few benefits to taking the survey. Most notably, it generates a personalized list of resources for your pharmacy based on your responses. We promise you will gain great ideas to increase efficiency and advance your pharmacy practice. Ultimately, actions taken from this self-assessment will improve patient care in North Dakota because we can gather the data and work together to improve pharmacy practice in our state through this collaboration!

Below are the links that provide information about the survey and for completing the survey.

<http://hsaassessment.org/>

<http://hsaassessment.org/faq.aspx>

Lastly, the success of completing the hospital self-assessment and the aggregate results will be discussed at the health summit March 3, 2016. We will come together and look at our strengths and weakness to see where we can go to expand pharmacy practice in North Dakota.

We thank you for your consideration as well as your support, especially to those of you who have already completed the survey. Thank you.

James Kallander, PharmD Candidate 2016



PRACTICE SPOTLIGHT
Family HealthCare clinic
(FQHC/community health center)
Fargo, ND
Brody Maack, PharmD



Type of service: Office-based ambulatory care clinical practice within a patient-centered medical home.

Years of service existence: 13 years (I have been here 3 years)

Number of pharmacy staff involved in service: 0.5 FTE clinical pharmacist currently

Snapshot of daily operation - how would you describe the service?

Patients are scheduled for 30 minute appointments and various services are provided during these visits, such as MTM, med reconciliation, disease state management (anticoagulation, tobacco cessation, hypertension, dyslipidemia/CV risk reduction, diabetes, asthma, COPD). Patients are typically referred from clinic providers (MDs, NPs, PAs) and are scheduled to be seen in my office, or if possible during their visit with the provider. I am able to initiate, modify or discontinue drugs as well as order pertinent lab work with use of a collaborative drug therapy management protocol. I also provide drug information and clinical consultation services to medical staff, work on clinic committees, provide education to clinic providers, and precept APPE pharmacy students.

How is patient care improved through this practice?

The purpose of the clinical pharmacy service is to help optimize patients' medication therapy by maximizing efficacy of medication regimens and minimizing adverse effects, as well as providing non-pharmacologic education and medication education, thereby helping patients achieve their goals. Goals include disease-specific goals (i.e. quit tobacco use, Hgb A1c improvement, blood pressure goals, etc), clinic quality measures (i.e. patient-centered medical home measures), medication adherence and patient satisfaction.

What outcomes are you measuring? What results are you seeing?

Several outcomes are tracked, and I am currently focusing on outcomes related to tobacco cessation and appropriate 'statin' medication use. These outcomes correlate with clinic quality measures. Specifically, we track tobacco cessation rates as well as rate of tobacco use assessment in the clinic, both of which have shown dramatic improvements over the course of the past 2 years. Regarding statin use, interventions made by the clinical pharmacy service has resulted in more referrals made to the clinical pharmacist to assist with CV risk reduction and statin medication optimization. Outcomes data are pending for this area, and will include rates of appropriate statin prescribing, appropriate statin dosing, and appropriate lab monitoring.

What lessons have you learned?

Aligning goals and outcomes tracking of my clinical service with the clinic's goals and quality measures has proved to be greatly beneficial. This has been an easy way to gain buy-in from clinic medical staff and management when trying to implement new services. Also, since I'm practicing in an FQHC setting, I'm not able to be reimbursed for services rendered, so being able to show value through helping the clinic achieve their goals has helped to show value. Another lesson learned has been to treat each relationship with providers uniquely. Not all providers are open to a pharmacist taking over management of medications between visits, whereas some are. By taking time to get to know them and discuss their patients candidly, it's been easy to build great working relationships.

How do you incorporate student pharmacists?

Two APPE pharmacy students attend my rotation site at a time throughout the year. I incorporate them in all aspects of my services, including patient visits. They typically start out in a shadowing role, and by the end of the rotation they evolve into a role that mirrors my own, seeing patients and making recommendations under my supervision. I also actively involve them into developing and implementing new clinical services. The statin/CV risk reduction service was actually designed, developed and implemented by several APPE students!

How do you incorporate pharmacy technicians?

Family HealthCare has an on-site pharmacy that employs many pharmacy technicians. They help a great deal in a peripheral manner to my service, by helping my patients obtain medications through various discount programs. They also alert me to any adherence issues or drug-drug interactions that are caught when patients are filling their prescriptions at the pharmacy.

What technology do you use?

Our clinic employs an electronic medical record, Centricity. I use this for all of my patient care documentation, messaging to providers when appropriate, ordering of medications and labs, and scheduling. I have an administrative assistant who is dedicated to monitoring my schedule to call patients to reschedule if they cancel or no-show their appointments, as well as help schedule referrals. I use some other external software programs to help with outcomes tracking, such as "Microsoft Excel" and "i2i".

How can other pharmacists in our state/region support you in your practice?

Help support and promote provider status! Practicing in a federally qualified health center means that I practice under a federal reimbursement structure. Therefore, not being recognized as a provider under the Social Security Act affects me directly in that I am unable to bill for most of my services. In a community health center that serves a large population of socioeconomically underserved, New Americans and homeless patients, the ability to support clinical services financially is vital!

Clinical Pearl

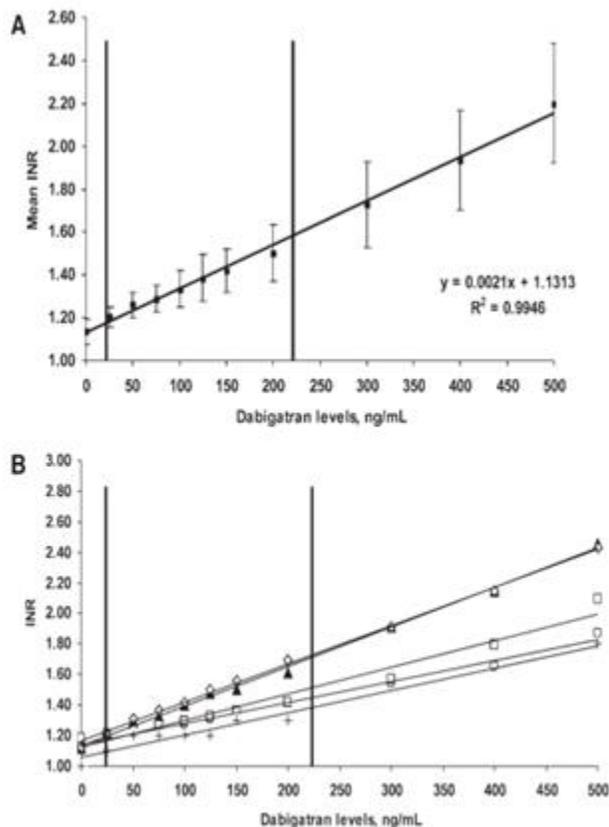
Dabigatran Effect on INR

By: David Leedah! PharmD, BCPS, BCCCP and
Tim Johnson PharmD Candidate 2016

In the field of pharmacy, there is a general consensus that dabigatran really has little effect (if any) on INR. Of course, there are patients who break the mold, and then there are patients that really break the mold.

Sanford Medical Center in Fargo reported a 71 year old man who presented to the emergency department with gastrointestinal hemorrhage precipitated by acute kidney injury while on dabigatran. Laboratory findings were highly uncharacteristic of dabigatran therapy (INR >10, aPTT of 93 seconds). Liver function tests showed a mild elevation in AST/ALT, with total bilirubin and alkaline phosphatase within normal limits. After admission into the intensive care unit and 7 U of fresh frozen plasma, he remained hemodynamically unstable due to blood loss. Other observations were made that are poorly characterized in medical literature related to dabigatran: refractory hemorrhagic shock after 7 U of fresh frozen plasma, rapid correction of coagulation parameters (INR, 1.7 and aPTT, 44 seconds) achieved 4 hours after 26 U/kg of 4-factor prothrombin complex concentrate (KCentra), and subsequent achievement of hemostasis. The patient was discharged to home 7 days later without sequelae. (Note: KCentra dose of 5000 U was ordered, but due to product unavailability, 3500 U was given)

Similar findings on dabigatran's effect on INR were observed in another case report from Michigan State University. A 58 year old man with a history of paroxysmal atrial fibrillation and end-stage renal disease on hemodialysis came to the emergency department with the complaint of severe epistaxis. He had been started on dabigatran 150 mg twice daily about 4 months ago as an outpatient. His prothrombin time (PT) was 63 seconds with an INR of 8.8 and his activated partial thromboplastin time (aPTT) was 105.7 seconds. Otherwise, all labs were unremarkable including liver function tests. Dabigatran was stopped immediately. His INR and aPTT trended downward and were within normal limits 5 days after admission.



The graph shown is from a multi-center in vitro study on dabigatran's effect on INR. It illustrates a linear relationship between dabigatran levels and INR, with INR not increasing above 2.5 even when dabigatran levels are as high as 500 ng/mL. So, either the dabigatran/INR relationship becomes logarithmic after a dabigatran level >500 ng/mL, the patients in the case reports had a catastrophically high serum dabigatran level (> 2500 ng/mL, if linear relationship is maintained), or there is an unknown contributor to these coagulopathies.

In conclusion, dabigatran is contraindicated in patients with severe kidney insufficiency as it is predominantly excreted via the kidney (~80%). Elderly patients over 75 and patients with chronic renal impairment should be carefully evaluated before starting dabigatran. Despite studies showing only mild increases in aPTT and PT/INR in patients receiving dabigatran, INR monitoring may be reasonable in patients with renal insufficiency.

References:

Jones JM, et al, Successful hemostasis and reversal of highly elevated prothrombin time/international normalized ratio after dabigatran etexilate use in a patient with acute kidney injury. *Am J Emerg Med* (2015), <http://dx.doi.org/10.1016/j.ajem.2015.07.071>

Joonseok Kim, Mrinal Yadava, In Chul An, et al., "Coagulopathy and Extremely Elevated PT/INR after Dabigatran Etexilate Use in a Patient with End-Stage Renal Disease," *Case Reports in Medicine*, vol. 2013, Article ID 131395, 4 pages, 2013. doi:10.1155/2013/131395

Dager, William, et al. "Dabigatran Effects on the International Normalized Ratio, Activated Partial Thromboplastin Time, Thrombin Time, and Fibrinogen: A Multicenter, In Vitro Study" *Annals of Pharmacotherapy* (Impact Factor: 2.06). 12/2012; 46(12). DOI: 10.1345/aph.1R179



Member Spotlight

Zach Marty, PharmD

Where are you from?

Now: Rolla, ND

Originally: Minnesota

What was your first pharmacy-related job?

I was a pharmacy technician at Walgreens in Roseville, MN before acceptance into pharmacy school.

What is your current practice setting, and how long have you been there?

Currently I am a pharmacist at IHS in Belcourt, ND and I have been here for 2 months. I am also currently the consultant pharmacist for Towner County Living Center in Cando, ND for the past year. Previously I was the director of pharmacy at Presentation Medical Center in Rolla, ND for 3 years following graduation from pharmacy school.

What are one or more of your go-to resources and why?

Fellow colleagues, plus my local antibiogram and the Sanford guide. I love the Sanford Guide. I think matching bugs and drugs is becoming more and more vital with the realization of the antibiotic pipeline shrinking. It takes a special kind of nerd to try to stay on top of local resistance patterns matched to national guidelines - both of which constantly are changing. One of my favorite days of the year is "new antibiogram day".

What keeps you occupied outside of work (hobbies, family, etc.)?

My favorite hobby is tailgating. When it's summer, or nice enough outside, I keep busy golfing and playing softball. I also keep pretty busy taking care of my dad's cattle when he is overseas. I used to coach high school football when I first graduated and am hoping someday I'll have the opportunity to do that again.

What are you currently most excited about in our profession?

Provider status and expanded MTM/CPA opportunities for ambulatory care patients. I think that pharmacists are begging to become widely known as medication experts and often times many patients and providers are looking to us to ensure optimal drug therapy.

What frustrates you most?

I wouldn't say that I often am frustrated, I'm lucky to have a high job satisfaction. Resistance to change, be it within the pharmacy or among pharmacists, providers or other staff, the institution or health system, the general public, legislatively and regulatorily, or even globally frustrates me - "if you aren't changing, you're falling behind".

What is the best advice you've received regarding your career?

Speak your mind and take all the opportunities that present themselves to you - you are never guaranteed to be offered them again.

What advice would you give to the rest of us?

Just to seize every opportunity to help your patients that you can - and remember it may not always be in a direct manner. Give a guest lecture to a pharmacy technician class, advocate for the profession to family and friends, introduce yourself to your legislators. I think a lot of the progress of pharmacy happens when there isn't a patient directly in front of us, but it is the patient that ultimately benefits.

Please share a memorable pharmacy-related story with us:

I do really like to think back about my 4th year rotation at Lake Region Healthcare in Fergus Falls, MN with Dr. Dewey. Specifically one day during rounding we received a preliminary report of double blood cultures positive for gram + rods, in a immunocompetent, otherwise, seemingly healthy middle aged adult male, and the provider and the pharmacy team exchanged somewhat perplexed glances. I kept an eye on the culture until it was released and despite the improbability it was truly *Bacillus anthracis*. After a very quick meeting of the minds, the patients antibiotic regimen was changed and he was immediately transported to Minneapolis. The man survived, unlike most who contract anthrax via natural causes, and I like knowing I had a role in his survival.

Publications!

Some of the published work of our colleagues from 1/2014 through 12/2015 is cited here. Let's learn from the research of our fellow NDSHP members, and also let their work toward furthering our profession encourage us to do the same!

Anderson E, Johnke K, Leedahl DD, Newman R, Dyke C. Novel Oral Anticoagulants versus Warfarin for the Management of Post-Operative Atrial Fibrillation: Clinical Outcomes and Cost Analysis. *American Journal of Surgery*. 2015 Sept;doi:10.1016/j.amsurg.2015.07.005

Jones JM, Ryan H, Tieszen M, Leedahl DD. Successful hemostasis and reversal of highly elevated PT/INR in a patient on dabigatran etexilate with acute kidney injury. *American Journal of Emergency Medicine*. 2015 Jul 29. dx.doi.org/10.1016/j.ajem.2015.07.071

Frazee EN, Leedahl DD, Kashani KB. Key Controversies in Colloid and Crystalloid Fluid Utilization. *Hospital Pharmacy*. 2015. 50(6):446–453. Featured as a *Hospital Pharmacy* journal club

Jones JM, Richter LM, Alonto A, Leedahl DD. Report of ceftaroline fosamil desensitization in a patient with methicillin resistant *Staphylococcus aureus* infection and multiple medication hypersensitivity reactions. *American Journal of Health-System Pharmacy*. 2015 Feb 1;72(3):198-202.

Leedahl DD, Frazee EN, Schramm GE, Dierkhising RA, Bergstralh EJ, Chawla LS, Kashani KB. Derivation of Urine Output Thresholds That Identify a Very High Risk of AKI in Patients with Septic Shock. *Clinical Journal of the American Society of Nephrology*. 2014 Jul;9(7):1168-74.

Leedahl DD, Personett HA, Gajic O, Kashyap R, Schramm GE: Predictors of mortality among bacteremic patients with septic shock receiving appropriate antimicrobial therapy. *BMC Anesthesiology* 2014 14:21.

Frenzel, Jeanne, et al. Essential skills for pharmacy graduates reported by advanced pharmacy practice experience preceptors. *Currents in Pharmacy Teaching and Learning* 7.5 (2015): 700-704.

This study determined which skills are essential for pharmacy students in the United States as reported by advanced pharmacy practice experience preceptors.

Skoy E, Eukel H, Frenzel J, Schmitz T. Performance and Perceptions: Evaluation of Pharmacy Students' Consultation via Telepharmacy. *Journal of Pharmacy Technology*. 2015; 8755122514568123.

The objectives of this study were 3-fold: to evaluate student ability to counsel via telepharmacy, to determine if there is a difference in students' abilities to counsel face-to-face or via telepharmacy, and to determine students' perceptions regarding patient consultation via telepharmacy.

Eukel HN, Frenzel JE, Skoy ET, Focken RL, Fitz AL. An Introductory Pharmacy Practice Experience Using Simulated Patient Care Activities in a Pharmaceutical Care Laboratory Environment. *Currents in Pharmacy Teaching and Learning*. 2014; 6(5): 682-691.

This study described an introductory pharmacy practice experience (IPPE) using simulated and actual patient care activities in a pharmaceutical care laboratory environment.

Frenzel JE, Skoy, ET, Eukel HN. Design and Evaluation of a Self-Care Educational Activity as a Student Learning Experience. *American Journal of Pharmaceutical Education*. 2014; 78(1): Article 12.

The design of an educational activity and evaluation its effectiveness on increasing third-year pharmacy students' knowledge and confidence to recommend self-care products to patients were evaluated.

Steffen KF, Wonderlich JA, Erickson AL, Strawsell H, Mitchell JE, Crosby RD. Comparison of warfarin dosages and international normalized ratios before and after Roux-en-Y gastric bypass surgery. *Pharmacotherapy*. 2015 Sept; 35(9):876-89. doi: 10.1002/pharm.1632.

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