

## **NCPA 2018 INNOVATION IN COMMUNITY PRACTICE POSTER SESSION**

### **Submitted Abstracts**

#### **Community Pharmacy Research**

##### **A Statewide Community Pharmacy Research Network that Aligns Patients, Pharmacists, and Researchers**

Presenters: Brandon Antinopoulos, PharmD, Joni Carroll, PharmD, BCACP, CTTS, Kim Coley, PharmD, FCCP, Melissa Somma McGivney, PharmD, FCCP, FAPhA

Patients are commonly invited to participate in patient-centered outcomes research (PCOR) at locations such as hospitals, physician offices, and clinics. Those who do not readily access health care services in these settings may never have the opportunity to participate in PCOR. Community pharmacies are the most accessible health care locations in the nation. There are no other health care locations with this degree of accessibility to patients, making them ideal locations to engage patients in PCOR.

This poster will outline a stakeholder engagement plan for building a community pharmacy research network in Pennsylvania. Investigators will conduct a "listening tour" to hear from pharmacists and patients in Pennsylvania to: 1) Identify their opinions on best practices for engagement in community pharmacy-based PCOR; 2) Assess community pharmacy and patient readiness and capacity to collaborate in PCOR; 3) Identify research priorities from community pharmacy partners and patients; and 4) Assess communication needs and preferences of stakeholder partners to facilitate continued engagement in PCOR. A Stakeholder Advisory Board consisting of community pharmacists and patients will assist in the development of a 2- and 5-year strategic plan for building a community pharmacy research network in Pennsylvania. Investigators will also develop a Community Pharmacy Research Engagement Kit for conducting PCOR with patients and pharmacist partners with the help of the Stakeholder Advisory Board. This project is funded by the Patient-Centered Outcomes Research Institute (PCORI).

##### **Collaboration between a clinically integrated pharmacy network and a local university to improve pharmacist confidence and competence in performing annual wellness visits**

Presenters: Shanna OConnor, PharmD, Lead Network Facilitator CPESN Idaho, Lorri Shaver, PharmD, Lead Luminary CPESN Idaho

This collaboration between CPESN-Idaho and Idaho State University is designed to ensure confidence and competence of CPESN-Idaho pharmacists completing annual wellness visits (AWV). A pre-test and survey were administered to all participants to assess baseline competence and confidence. The pre-test was comprised of 20 knowledge and application-based questions that focused on core components of the AWV. The pre-survey was comprised of 10 likert-style questions focused on confidence in delivery of an AWV. A 3-hour physician assistant faculty-designed workshop was conducted for the CPESN-Idaho pharmacists focused specifically on delivery of AWV. Immediately after the workshop, pharmacists were asked to complete the same test and survey that were completed before the workshop. A repeat test and survey were administered one week after the workshop to assess retention of knowledge. Results (pending) will describe change in competency scores and confidence scores between the pre-workshop, post-workshop, and 1-week post-workshop exams and surveys. It is anticipated that this collaboration will demonstrate successful interprofessional training that could be replicated elsewhere to strengthen clinically integrated pharmacy networks.

## **Community Pharmacy Foundation Grant Funding for Innovative Independent Community Pharmacy Projects**

Presenter: Anne Marie Kondic, PharmD - Executive Director

The Community Pharmacy Foundation (CPF) is a non-profit organization dedicated to advancing community pharmacy practice and patient care delivery through grant funding and resource sharing. CPF was established in 2000 as the result of a pre-trial class-action discriminatory pricing lawsuit settlement, filed by the Pharmacy Freedom Fund, against brand name prescription drug manufacturers. Approximately 18.5 million dollars was initially awarded and the foundation was managed by five original board members which has grown to seven. Since grant funding started in 2002, CPF has funded over 184 grants and projects totaling over 8.8 million dollars. The average grant award is approximately \$35,000 and excludes indirect and equipment costs. CPF is looking for the next great idea to advance the practice of pharmacy in the community setting by funding innovative projects that are replicable in other practices; transferable to share knowledge and resources; and, ultimately financially sustainable in future implementation.

### **Development and Implementation of a Community Pharmacy-Based Falls Prevention Service**

Presenters: Jessica Robinson, PharmD, Sarah Shockley, PharmD Candidate, Chelsea Renfro, PharmD, Stefanie Ferreri, PharmD, BCACP, CDE, FAPhA,

Methods: The Evidence-Based System for Innovation Support (EBSIS) Logic Model guided the development of processes, tools, and training for a falls prevention service. EBSIS focuses on four components of innovation delivery: tools, training, technical assistance, and quality improvement. Focus groups were conducted with community pharmacy and primary care stakeholders to develop workflow processes and tools for service implementation. These resources were piloted in community pharmacies in a randomized-controlled trial within a North Carolina community pharmacy network. Participants will complete an online survey and participate in semi-structured interviews to identify key characteristics and challenges to guide the development of a community pharmacy falls prevention toolkit.

Preliminary Results: Thirty-one community pharmacies implemented the falls prevention service during their participation in a randomized-controlled trial from October 2017 to June 2018. Tools and resources underwent minor modification throughout the intervention, based on participant feedback. Surveys were distributed in August 2018, with results to be analyzed in September 2018. Interviews will be conducted in September-October 2018, with analysis completed by December 2018. Final results and the community pharmacy falls prevention toolkit are expected to be complete by December 2018.

Preliminary Conclusion: Initial results suggest that procuring pharmacy and primary care feedback led to the development of tools and resources that required minimal modification for effective use in the community setting. By gathering feedback via survey and semi-structured interviews, investigators will be able to develop a robust toolkit for dissemination to community pharmacists who wish to develop a falls prevention program in their own pharmacies.

## **NCPA Student Chapter Update**

### **Building success from scratch**

Presenters: Tiba Almaarroof, PharmD Candidate 2020, Tracy Vuong, PharmD Candidate 2020, Peter Tang, PharmD Candidate 2020

Our poster is comprised of three different entities: Business, Compounding, and Community Engagement. We value team building, thus our poster will show our involvement in group competitions (both business and compounding), inter-professional collaboration events with other healthcare professionals.

### **NCPA CU Chapter Immunization Challenge**

Presenter: Jackson J. Reed, President-Elect NCPA CU Chapter, Cameron Welker, Treasurer-Elect NCPA CU Chapter, Kenny La, Treasurer NCPA CU Chapter, Janet Kim, Secretary NCPA CU Chapter

We encourage students to log and report the immunizations they have completed during pharmacy visits, health fairs, and rotations to promote the administration of seasonal flu vaccines to patients across Colorado. The winner is the class that reports the most immunization at the end of the school year and are reward with a class prize of our choice. In our poster, we report the number of vaccines administered over the past year and the goals we have set for our school for the coming year. As far as we know, we may the only or one of the few NCPA chapters that promote immunizations as a competition between classes.

## **Resident Research/Project**

### **Feasibility of Incorporating a Pharmacist-Prescribed Hormonal Contraception Program into the Workflow of a Community Pharmacy**

Presenter: Shanna O'Connor, PharmD, Director of Clinical Services, Assistant Professor

**Methods:** This IRB-approved study consisted of two phases. In Phase 1, pharmacists in a single community pharmacy completed training and pre- and post-training assessments. Pre- and post-training assessments included a questionnaire to assess confidence and perceived competence and an exam to assess actual competence. Phase 2 consisted of implementing a PPHCP into the daily workflow of a community pharmacy using mock patients with scripted profiles to assess potential harm to patients while avoiding actual harm. Each profile had a predetermined number of appropriate changes to the hormonal contraceptive regimen and number of red flags the pharmacist needed to identify. Three rounds of rapid-cycle improvement were completed over six weeks. In each round, the mock patient presented to the pharmacist during a typical business day. The pharmacist assessed changes to the contraceptive regimen using a protocol and their clinical judgment, created a new regimen, and implemented the changes with the patients. Data collected relates to the impact of the service on workflow, pharmacist competence, and perceived service quality. **Results:** Four pharmacists in the community pharmacy were identified for participation and completed phases one and two of the study. Scores on the competency exam improved after the feasibility study (37% pre vs 67% post). Eighteen visits were completed during the project. In Cycle 1, 2, and 3, 87.5%, 87.5%, and 100% of potential red flags were identified and pharmacist time commitment was 24.2, 26.8, 19.9 minutes, respectively. Workflow barriers included inadequate communication, insufficient materials, space for the visit, and pharmacist time.

## **Student Research/Project**

### **Characterizing Over-the-Counter (OTC) Medication Patient Safety Among College Students**

Presenter: Xinyan Ye, PharmD Candidate 2019

College students (age > 18) enrolled at a university in the US northeastern region were invited to complete an online survey displayed on the student website between October to December 2017. The 32 survey items asked about frequency and types of OTC medications used, reading OTC directions and warning labels, information seeking behaviors, preferred options for learning about OTC medication safety, perceptions of consulting with pharmacists, and demographics. The content of the survey was developed through multiple reiterations and evaluation from faculty and student researchers. Completed surveys were analyzed using descriptive statistics to identify patterns of OTC medication use behaviors and how pharmacists can facilitate the safe and effective use of OTC medications.

A total of 926 students completed the survey. Most students (96%) have used OTC medications in the past year, and the most common categories of OTC medications used included pain relievers, cold medications, and vitamins. A majority of respondents (>70%) sought information about OTC medications by using the Internet, and if an OTC medication did not seem to alleviate symptoms, 21% of students would take more than the recommended dose and 22% of students would retake the dose sooner than recommended. A number of factors appeared to influence students' willingness to consult with pharmacists about OTC medication use such as pharmacists' appearing busy, length of patient waiting queues in the pharmacy, and having an existing relationship with the pharmacist. Lastly, about 55% of students stated they would be interested in consulting about OTC medications with a pharmacist.

### **Evaluation of Effective Communication Strategies for Independent Pharmacies**

Presenter: Karl Kodweis, PharmD Candidate

**Methods:** A two-part survey was developed in partnership with a regional wholesaler. The survey was designed to evaluate communication strategies and preferences in three areas: wholesaler communications to pharmacy, wholesaler-supported communications from pharmacy to patient, and wholesaler-supported information direct to patient. Part one was an online-based survey dispersed to pharmacies in NC, SC, VA, and WV. Surveys were disseminated to 864 total individuals representing 495 pharmacies. 137 responses were obtained, representing 15.9% of individuals and 27.7% of pharmacies. Part two was a pilot telephone survey (n=4) with open-ended interview questions.

**Results:** Pharmacies classified recall notices (94.02%), back-ordered items (90.6%), and pricing information (94.02%) as either "important" or "extremely important." Product close-out lists (61.73%) and vendor-sponsored emails (82.05%) or promotions (71.79%) were classified as "not important" or "sometimes important." Most pharmacies found wholesaler supported communications for pharmacies to share with patients to be "sometimes useful" (49.14%) and "useful" (20.69%).

**Conclusion:** Information with direct impact on pharmacy operations or financial considerations was generally viewed as most valuable by respondents. It is evident that the current communication methods with pharmacies can be optimized for effectiveness and efficiency. may require specific communication methods for their day-to-day operations, but insights from this data may prove useful for future communication strategies.

## **MEDISCA® MAZERUSTAR® Performance Time Comparison with Conventional Compounding Methods**

Presenters: Megan Baker, PharmD Candidate, Erik Nelson, Owner and Manager of Sixth Avenue Medical Pharmacy, Connie Remsberg, Clinical Professor, PharmD

### **Methods:**

The time taken to create compounded prescription creams at an independent pharmacy in Spokane, Washington (Sixth Avenue Medical Pharmacy) was evaluated between both the Mazerustar® and conventional compounding methods. Conventional compounding methods consisted of using an electronic mortar and pestle (EMP) to mix and an ointment mill to reduce the particle size. Each compounded cream was timed from the beginning of the mixing process to the end by the technicians completing the compounding. Time results were recorded on an Excel spreadsheet and data was tracked through the pharmacy software system. Weighing ingredients and placing cream into final dispensing containers were not included in time comparison. The compounds for individual prescriptions were directly compared by recording time taken to compound the prescription through conventional methods one month and then using the Mazerustar® the next month.

### **Results:**

The Mazerustar® saved on average 44 seconds per compounded cream in comparison to conventional methods ( $p=0.046$  via paired t-test). Using an average of \$22.00 per hour for a technician, plus indirect costs, it is estimated for a pharmacy compounding an average of 20 compounded creams per day a cost savings of approximately \$42,000 annually.

### **Conclusion:**

The Mazerustar® mixer saved compounding time relative to conventional methods when compounding creams. This could translate to cost and time savings for compounding pharmacies.

## **Not Cautious Enough: The Perception of Undergraduate Students towards Self-Medication**

Presenters: Anna Grimalyak, PharmD Candidate 2018, Helen Meldrum Associate Professor of Psychology, Bentley University Program in Health and Industry, Susan Jacobson Associate Professor of Pharmacy Practice, MCPHS University

Self-medication is a common management strategy for minor conditions and illnesses. The purpose of this study was to document the decisions that college students make when self-medicating with non-prescription products. Undergraduates enrolled at a mid-sized university in New England responded to an email invitation to participate in a survey. Hypotheses speculated that students are largely uninformed about what products they use for self-care. A questionnaire based on a review of research was devised and collected both quantified and open-ended data. A total of 343 respondents assessed their own levels of comprehension regarding alternative supplement products and OTC medicines. Beliefs about safety, side-effects, dosages, interactions and precautions were evaluated. Results indicate that recommendations and passed-along products from friends and family influence self-care decisions more than a practice of consulting with health care clinicians. Data collected revealed a lack of awareness. For example, majority assumed that the FDA is responsible for the safety of alternative supplements through the same scientific testing process used for prescription drugs. Significant differences were found in levels of familiarity with common OTC products versus alternative supplements. Even when respondents recognized their own lack of expertise, most still have faith in the overall efficacy of the products they use. Manufacturers of non-prescription products have an opportunity to provide more education targeting this younger demographic. University aged buyers need to become more conscious of the potential risks of using OTC and alternative medicines and increase their tendencies to consult a health care professional with essential questions.

### **Pharmacogenomic Testing in the Community Pharmacy: An Innovative Advancement**

Presenters: Kajal Patel, PharmD Candidate 2021, President NCPA PCP Chapter, Shivangi Solanki, PharmD Candidate 2020, Dwipi Patel, PharmD Candidate 2020

The addition of pharmacogenomics in community pharmacy practice has been found to appear beneficial and practical for pharmacists, patients, physicians, and other members of the healthcare industry. This poster intends to present a greater insight of how community pharmacies and pharmacists can implement genetic testing. The relevance of community pharmacy to pharmacogenomics today, followed by the main outcomes and results in community pharmacies researched will be presented. The limitations and suggestions for future studies are also included. The poster will thoroughly explain the topic research that was conducted.

### **Point-of-Care Testing in Arkansas: Can we do it? (Yes, we can!)**

Presenters: Sarah Talley, PharmD Candidate, Rachel Stafford, PharmD, Megan Smith, PharmD, BCACP,

Methods: In September of 2017, 29 pharmacists representing 19 pharmacies attended a Community Pharmacy Based Point-of-Care testing (POCT) certificate program that focused on influenza, hepatitis C, HIV, and group A streptococcal pharyngitis testing. Ten pharmacies were recruited to participate in a follow-up study. In July 2018, one pharmacist from each pharmacy (n=10) was interviewed using a semi-structured interview guide to assess implementation progress. The interview guide was developed from the Consolidated Framework for Implementation Research (CFIR) and focused on facilitators, barriers, and a critical constraint of implementation. The research team defined the degree of implementation using the implementation stages of exploration, preparation, operation, and sustainability. The interviews were audio recorded, transcribed, and coded by two research team members per interview. The interviews were discussed until agreement was met on the critical constraint and the degree of implementation.

Results: Five barriers were identified as the critical constraint effecting the progress of implementation: (1) obtaining CLIA Certificate of Waiver, (2) unsure of potential for success in community, (3) difficulty in establishing treatment access, (4) other higher priority needs, and (5) missed the main season of testing. All ten pharmacies were classified in the first three implementation stages: exploration (n=3), preparation (n=5), and operation (n=2), with no pharmacies being classified in the sustainability stage. Pharmacies in the exploration phase shared a common critical constraint of unsure of potential for success in community, which was not seen as a constraint for the other pharmacies.

### **Revenue Lost by Urban and Rural South Carolina Pharmacies Due to Improper Influenza Vaccine Billing Practices**

Presenter: Heather Wease, PharmD Candidate 2021

In 2010, the South Carolina Pharmacy Practice Act was amended to authorize pharmacists to administer influenza immunizations to patients aged 12 and older without a prescription. While this protocol expansion increased patient access to influenza vaccinations, it also increased revenue opportunities for community pharmacies by administering and billing for vaccines. Billing for immunizations occurs in two steps: bill for the vaccine itself then bill a vaccine administration fee. This study focuses on the billing accuracy amongst community pharmacies in South Carolina that administer influenza vaccinations to Medicare Part B enrollees. Data analysis and manipulations were conducted using SAS and Excel. Results show that South Carolina pharmacies billed more frequently for the administration fee alone than both the administration fee and vaccine. Vaccines were billed 136,237 times while administration fees were billed 140,311 times. Fourteen pharmacies billed more for the vaccine than the administration fee. Regardless of which vaccine component the pharmacy failed to bill, revenue was lost. Our analysis shows that urban South Carolina pharmacies failed to collect \$92,731.21 in revenue while rural pharmacies failed to collect \$17,797.84 for a total loss of \$110,529.04. The implications of improper immunization billing are vast but the most immediate one is lower revenue for pharmacies. As the Medicare population continues to grow in South Carolina, and these improper billing practices pharmacies will lose revenue and profitability will decline.

## **Utilizing Rapid-Cycle Problem Solving during Initial Implementation of Patient Care Services within Independent Community Pharmacies Participating in a Statewide Pharmacy Care Network**

Presenter: Sophia Cothrel, PharmD Candidate 2019

A statewide community pharmacy enhanced services network in Pennsylvania contracted with a regional Medicaid managed care organization for the provision of comprehensive medication management. A total of 59 independent pharmacies entered into the payer contract to provide comprehensive and targeted medication reviews to their patients. This project utilized rapid-cycle problem solving, an improvement cycle within the “Plan, Do, Study, Act” quality improvement process. Pharmacists from each of the 59 pharmacies were invited to participate in a series of phone-based, key informant interviews. Interview questions elicited information on (1) patient engagement strategies, (2) non-pharmacist team member involvement, and (3) useful network resources. Interviews were audio-recorded, de-identified, and transcribed verbatim. A generic, qualitative approach was used to evaluate the data. NVivo 10 software was used to code transcripts and discern quotes to support identified themes. The University of Pittsburgh Institutional Review Board determined that this project did not meet the criteria for human subjects research. A total of 48 pharmacists were interviewed bi-weekly for the first 14 weeks after initial launch of the payer contract. A total of 155 semi-structured interviews were conducted. Identified themes encompassed topics including patient engagement, adaptation of the pharmacy practice, interprofessional collaboration, and multilevel support from the network. Utilizing rapid-cycle problem solving helped with initial implementation of this comprehensive medication management service in independent community pharmacies. The themes provide insight into best practices used by pharmacists during an initial launch of a statewide comprehensive medication management program. These learnings may be used for future implementation of payer contracts nationwide.

## **Student Business Plan Competition**

### **512 Pharmacy: Your Local Pharmacy and Infusion Center**

Presenter: Sarah Nguyen, PharmD Candidate 2019

512 Pharmacy promotes integrative care in the Mueller area of our Austin community by not only providing patients convenient access to their medications but by creating customized medications so that every patient may receive holistic, personalized healing. We hope to achieve this through services utilizing innovative robotic technologies and providing non-sterile and sterile compounding alongside infusion services. 512 Pharmacy, LLC will have five managing members, each of whom will have 20% ownership of the LLC. We request an SBA 7(a) Loan, valued at \$672,000 with 7.75% interest paid over 10 years, resulting in monthly payments of \$8064.71. Owners will provide \$168,000 in capital towards the SBA loan. In addition, liens on personal assets will be taken due to insufficient company assets to fully secure the loan. Owner’s personal assets are valued at \$330,000. The poster will further illustrate the legal structure, products and services, location analysis, marketing plan, physical layout, and financial projections of the pharmacy. This business plan was written and prepared by Kiersten Braasch, Sydney Braasch, Christian Carlson, Daniel Davis and Sarah Nguyen under the advisement of Dr. Nathan Pope. We also acknowledge Jeff Carson of Oakdell Pharmacy, Chris Perling of East Austin Medicine Shop, Jigar Satasia of Quick Pharmacy, Andy Ruiz of Stonegate Pharmacy, Karl Kipke of Health Growth Capital, Jobby John of Lake Hills Compounding and Wellness Center, Anyssa Garza and Michael Pierce of Digital Pharmacist, and Ryan Riviello of McKesson Corporation for providing valuable insight. The poster will be created and presented by Sarah Nguyen.

### **Fresh Creations Pharmacy Business Plan**

Presenters: Jennifer Ellis, PharmD Candidate, Brittany Branam, PharmD Candidate, Campbell Ready, PharmD Candidate,

The University of Georgia College of Pharmacy business plan team developed a proposal for purchasing an existing pharmacy in Macon, Georgia. The team plans to upgrade the store to reflect current pharmacy practice as well as attract new customers. The pharmacy will offer an innovative service called "Fresh Start," which will promote healthy eating in the community. This program will incorporate healthy, fresh food with a dietician consult. Additional services to be offered include prescriptions, medication synchronization, medication therapy management and immunizations. Overall, the pharmacy staff will endeavor to form lasting bonds with the members of our community and build trusting relationships that contribute to exceptional healthcare.

### **The Grove Pharmacy Business Plan**

Presenters: Emily Gicewicz, PharmD Candidate, Morgan Steffey, PharmD Candidate

Our business plan is tailor made to our community, even baring the name of a local establishment of years past that invoked a sense of community in the town. That is the exact goal of our pharmacy, to have place where we can help enhance the lives of people in our community. From working to local leaders to learn the area, we feel that we made a plan to do just that and grow with our community.

### **University of Minnesota Business Plan - Northstar Pharmacy & Flight**

Presenters: Austin Streiff, PharmD Candidate, Dan Cook, PharmD Candidate, Dylan Ring, PharmD Candidate, Kyle Anstett, PharmD Candidate

Our poster highlights the University of Minnesota team's business plan for Northstar Pharmacy & Flight. Northstar takes an innovative approach to providing pharmacy services throughout northern Minnesota. A brick and mortar pharmacy located in Warroad, MN serves as home base for Northstar and pharmacy services are provided by flight to 3 remote communities across the region.

### **VIP - Very Important Pharmacy**

Presenters: Tej Patel PharmD Candidate, Trent Quinn PharmD Candidate, Victoria Phan PharmD Candidate, Ameer Shah PharmD Candidate

The poster presentation will showcase the business plan of VIP, Very Important Pharmacy created by Tej Patel, Ameer Shah, Trent Quinn, and Victoria Phan from the University of South Carolina, College of Pharmacy. The plan consists of details of the services, products, marketing and financial projections of the pharmacy. VIP specializes in pediatric and maternal care and offers an in-house pediatrician, OB-GYN, sterile and nonsterile compounding, educational classes, specialized products for mothers and babies, and retail prescriptions. It is located in Winston-Salem, North Carolina in a well-populated community near Wake Forest University. To open VIP, a loan for \$500,000 was requested as well as \$500,000 in personal investments from the owners. The business plan is shown in real time as a virtual pharmacy for future investors to see where their money is going. VIP's Marketing includes, pens, business cards, banners, medication-free lollipops and nipple cream samples, wristbands, t-shirts, and carrying bags. VIP also has its own application that was coded at no cost to cater to the young individuals and many of the elders too. The business projections have month 16 from opening to be the turning point at which the business will be making profit. VIP is a long running business plan that is ready to break ground today.