



# Postgraduate Pharmacy Resident Research Projects

COLLEGE OF PHARMACY



UNIVERSITY OF MINNESOTA

## Postgraduate (PGY-1) Pharmacy Residency Program

KELLY BENEKE

NEW ULM MEDICAL CENTER

### Improving Appropriate Outpatient Fluoroquinolone Prescribing Rates at New Ulm Medical Center

*Purpose:* The purpose of this quality improvement study was to evaluate and improve appropriate fluoroquinolone prescribing rates for uncomplicated urinary tract infections (UTI) in adults at New Ulm Medical Center (NUMC) by 20% from baseline by May 1, 2020.

*Methods:* A comparative pre- and post-intervention retrospective review was conducted to assess fluoroquinolone prescribing rates of family practice and emergency department providers. All patients prescribed an antibiotic for an uncomplicated UTI were included in the study. Uncomplicated UTI was defined as an immunocompetent non-pregnant female 18 to less than 65 years of age without an indwelling urinary catheter. Data was collected six months prior to intervention (August 2019 – January 2020) and two months following intervention (March – May 2020). The intervention was a presentation to providers in February and March 2020. The primary outcome was the percent change in prescribing rates of appropriate fluoroquinolone prescriptions for the treatment of uncomplicated UTI. The secondary outcome was the percent change of nitrofurantoin, cephalexin, and sulfamethoxazole/trimethoprim prescribed for UTIs in women 18 to less than 65 years of age.

*Results:* The appropriate fluoroquinolone prescribing rate for uncomplicated UTIs in adults improved by 25% following an educational intervention, exceeding the goal of 20% from baseline. The proportion of cephalexin prescriptions for UTIs in women 18 to less than 65 years of age increased by 9% from baseline with little to no change in nitrofurantoin or sulfamethoxazole/trimethoprim.

*Conclusion:* An educational intervention to providers improved appropriate fluoroquinolone prescribing rates for uncomplicated UTIs.

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AMANDA BISEL

ALLINA HEALTH

## Demonstrating the Value of Comprehensive Medication Management Services to Stakeholders

*Purpose:* This project aimed to determine if pharmacist led identification and management can increase the percentage of women receiving successful post-fracture care at Allina within 24 months post-fracture by 10% by seeing a pharmacist for a Comprehensive Medication Review (CMR) between January 1, 2020 and April 10, 2020.

*Methods:* Women aged 50-85 who had a fracture in the last 24 months were identified and offered CMRs with an Allina Pharmacist Practitioner. A chart review was completed after CMRs to determine successful post-fracture care (DEXA scan within two years or osteoporosis medication one year prior to fracture or any time after until end of study). Number and type of medication therapy problems (MTPs), acceptance of MTPs, and percentage achieving CMR star rating were recorded as secondary endpoints.

*Results:* A total of 752 patients were identified, with 569 patients offered CMR services, and 51 agreed. The difference in successful post-fracture care before (28/51 (55%)) and after (33/51 (65%)) receiving a CMR from a pharmacist was 10% ( $p=0.0253$ ). Odds of successful post-fracture care was increased by 1.5 times after seeing a pharmacist. Patients who denied a CMR achieved CMR star rating at 33% compared to 47% in those who agreed to a CMR. Forty-nine MTPs were identified in study patients; the most common was need for an updated DEXA scan.

*Conclusion:* Pharmacists can improve post-fracture care as an important member of the care team. The identified MTPs indicate a gap in care that should be addressed to improve the care of patients post-fracture.

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ANALISA BUYSSE

AVERA MARSHALL REGIONAL MEDICAL CENTER

## Transition From Warfarin To Direct Oral Anticoagulants In Patients Participating In A Nurse-Led Anticoagulation Clinic

**Background/Purpose:** Few studies have evaluated how many patients currently participating in warfarin anticoagulation clinics are candidates for therapy with direct oral anticoagulants (DOACs) or the subsequent impact on reimbursement that accompanies a decrease in International Normalized Ratio (INR) testing. The objectives of this study were to identify the percentage of patients participating in a nurse-led anticoagulation clinic who are candidates for DOAC therapy and transition 10% of all DOAC candidates from therapy with warfarin to a DOAC.

**Methodology:** A medication use evaluation was conducted, individually assessing patients for appropriateness of DOAC therapy. Transitioning eligible patients from warfarin to DOACs was discussed individually with providers. Anticoagulation clinic reimbursement information was gathered from the billing department. A patient-specific average number of anticoagulation clinic appointments per month was used to calculate an estimate of anticoagulation clinic reimbursement lost if patients were transitioned off warfarin and onto a DOAC.

**Results:** Of those qualifying for DOAC therapy, 5 (3%) patients were successfully transitioned. Of the patients participating in the nurse-led anticoagulation clinic, 130 (54%) were guideline recommended DOAC candidates and 35 (15%) were clinical judgement DOAC candidates. If all guideline recommended DOAC and clinical judgement DOAC candidates were transitioned from warfarin to DOACs, approximately \$30,593 would be lost in revenue from a decrease in INR appointments.

**Conclusions:** DOACs remain underutilized in patients who are clinically indicated for their use. As DOAC use increases, clinic revenue from warfarin management visits can be expected to decrease.

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SARAH CLARK

## FAIRVIEW PHARMACY SERVICES

### Expansion Of Post Discharge Medication Therapy Management (Mtm) Pharmacist Services To Pediatric Patients With Psychiatric Illness At High Risk Of Hospital Readmission

*Purpose:* The purpose of this project was to enhance the existing transitions of care (TOC) program in our behavioral health (BH) populations. One aim of the project was to improve the referral success rate of an existing TOC program in the adult behavioral health population. Another aim of the project was to implement a new TOC process for pediatric patients with psychiatric illness which involves meeting with an MTM pharmacist post-hospital discharge.

*Methods:* Areas for improvement were identified in the adult BH program; education and workflow standardization were completed with the goal of improving the referral success rate of the program. Data was collected to compare the referral success rate of the program post-interventions to the referral success rate at baseline. Referral criteria for complex pediatric patients was established with a team of experts and built into a best practice alert (BPA) in the electronic medical record (EMR). All parties involved in the new pediatric referral program were trained in the appropriate workflow and the program was implemented. This was followed by data collection on the frequency the BPA fired and the number of scheduled MTM visits.

*Results:* The adult BH program referral success rate improved from a baseline of 10% (n=1,373) to 16.6% (n=546) post-intervention. The pediatric referral program was implemented, leading to 4 scheduled MTM visits with 2 patients completing the appointment, and a referral success rate of 7.1% (n=28).

*Conclusions:* The education and workflow standardization interventions considerably improved the referral success rate of the adult BH program. However, the rate leaves room for additional improvements. The pediatric TOC program was implemented, and the BPA volume indicates that the selected criteria adequately captures high-risk patients. Additional data should be collected to analyze the impact of this program on readmission risk and to direct future process improvement work.

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JAMIE ERICKSON

## CASHWISE CLINIC PHARMACY WILLMAR

### Evaluating Patient Health Outcomes And Provider Satisfaction After Implementing A Pharmacist-Led Medication Reconciliation Program Prior To Annual Medicare Physicals

*Purpose:* To improve team-based patient care through expanding pharmacy services at the Willmar Carris Health Clinic by conducting pharmacist-led medication reconciliation prior to Medicare annual wellness physical visits.

*Methods:* Eligible patients included those with active Medicare insurance coverage taking at least one medication. The receptionist contacted patients at least one week prior to their physical to schedule an appointment with the pharmacist immediately preceding the appointment with their physician. Potential drug therapy problems and recommendations were documented in the patient's medication list and served as the means of communication between the pharmacist and physician. The pharmacist met with eligible patients for each physician over a period of approximately two to three weeks. After the completion of all patient appointments with a single provider, a 4-question satisfaction survey was administered to each physician and registered nurse.

*Results:* A total of 32 patients were seen by the pharmacist under the care of three different primary care providers. From these patient encounters, 129 changes were made to the medication lists. These changes included adding, removing, or changing the strength/dose/directions/formulation of the medication and updating patient medication allergies. The pharmacist identified a total of 114 drug therapy problems (DTPs), and of these, 81 DTPs (71%) were resolved following the appointments. All three providers provided positive feedback on the satisfaction surveys including that they found the program beneficial for patients and would like to continue a similar program in the future.

*Conclusion:* The utilization of a pharmacist-led medication reconciliation program prior to annual Medicare physicals resulted in positive patient and provider satisfaction. The program allowed patients to gain a better understanding of their medications and gave patients an opportunity to ask questions about their medication regimen prior to seeing their primary care provider. This allowed physicians more time to focus on non-medication related issues during the appointment. Physicians were very receptive to considering and accepting recommendations made by the pharmacist. The largest category for unresolved DTPs was administration of recommended immunizations. Although the program was discontinued prematurely due to the COVID-19 pandemic, it was still able to demonstrate the value of integrating a pharmacist into the healthcare team.

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ANNA HANSON

ESSENTIA HEALTH

## Knowledge And Attitudes Toward Pharmacogenetics Among Medical Residents And Faculty At A Family Medicine Residency Program

**Purpose** - Evaluate knowledge and attitudes toward pharmacogenetics among medical residents before and after pharmacist-guided pharmacogenetics education, as well as assess perceptions of both medical residents and faculty regarding pharmacogenetics utilization in their practice.

**Methods** - This pre/post education survey study was conducted at an upper-Midwest family medicine residency program. The study population included twenty-seven PGY1-3 medical residents and eight physician faculty members. In October-November 2019, a baseline survey was distributed to PGY1-3 medical residents and faculty. The information collected in this survey was utilized to design a one-hour pharmacist-guided pharmacogenetics education conducted in December 2019. PGY1-3 medical residents' knowledge and attitudes toward pharmacogenetics were surveyed before and after the pharmacist-guided education.

**Results** - Results of the pre-education survey found that 85% of the matched PGY1-3 medical residents agreed or strongly agreed that pharmacogenetic testing is relevant to medication decision-making in their practice. However, only 20% agreed or strongly agreed they were confident in understanding cytochrome P450 enzyme variants and how drug metabolizer phenotypes impact drug metabolism. Statistically significant positive changes were seen in most items related to provider knowledge toward pharmacogenetics when evaluating matched pre/post education responses. There were positive changes in items related to provider attitude toward pharmacogenetics although these were not statistically significant findings.

**Conclusion** - The results of this study demonstrate a benefit of pharmacist involvement in pharmacogenetics education.

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EMILY HULKE

GOODRICH PHARMACY

## Implementation Of A Transitions Of Care Program From The Community Pharmacy Setting

The objectives of this project were 1) to implement a comprehensive medication therapy management referral system upon discharge from transitional care units (TCUs) to Goodrich Pharmacy, a community pharmacy, and 2) determine the subsequent impact on hospital readmission rates. Partnering with TCUs in the Goodrich Pharmacy service area was challenging. Instead, the project adapted to partner with an assisted living facility. Pharmacists can identify drug therapy problems in patients residing at an assisted living facility who underwent transitions of care. Five patients were identified during the data collection period. A total of nine drug therapy problems were identified for these patients. This study was limited by a small sample size and lack of in person communication with patients and assisted living facility staff due to visitor restrictions put in place due to the coronavirus pandemic. Further research is needed to examine the best way to include community pharmacists in transitions of care and the impact that they can have on hospital readmission rates.

ALISON KINGSBURY

GUIDEPOINT PHARMACY

## Sustainability And Benefits Of Independent Community Pharmacy Long-Acting Injectable Antipsychotic Medication Services

On July 1st, 2019, new legislation went into effect in Minnesota that expanded the scope of practice for pharmacists to include the administration of long-acting injectable (LAI) antipsychotic medications to increase access to care. However, the benefits and sustainability of community pharmacies offering this service is unknown. This project was designed to answer this unknown by increasing the number of patients receiving long-acting injectable (LAI) antipsychotics from a total of zero to three every month by April 24th, 2020 at GuidePoint Pharmacies. Eligible patients were greater than or equal to eighteen years and prescribed a LAI. Interventions and data were collected at each visit with a comprehensive medication review at the first visit. Patients were followed up with monthly or at next appointment; whichever was sooner. Two patients were included in the study. One of the patients dropped out as a result of a high copay medication and interventions were made on behalf of the other patient. Patients' weight, blood pressure, COI, AIMS score, and lipids did not have enough data to perform analysis. Many barriers were present when initiating the new service of administering longacting antipsychotic injectables in a community pharmacy which resulted in the study not being robust or illuminating the new service sustainability. Barriers encountered were lack of provider awareness, patient awareness, third party reimbursement, and COVID-19. Once sustainable, pharmacists can begin to demonstrate a benefit in administering LAI.

# Postgraduate Pharmacy Resident Research Projects

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KYLEA LARSEN

COBORN'S PHARMACY

## Implementation Of A Pharmacist-To-Pharmacist Referral System For Transitions Of Care Pharmacy Visits In A Primary Care Clinic

Transitions of care (TOC) visits led by a pharmacist after hospital discharge can improve patient care. Most TOC patient visits at Catholic Health Initiatives (CHI) St. Gabriel's Family Medical Center (FMC) are self-initiated by the outpatient pharmacist. Literature has shown that patient referrals from inpatient pharmacists to a TOC pharmacist can increase the amount of pharmacist-led TOC visits completed. The purpose of this study was to implement a pharmacist-to-pharmacist referral system to increase the number of pharmacist-led TOC visits from two visits per month in October 2019 to seven visits per month by May 2020.

In order to implement the new process, inpatient pharmacists identified patients who would be appropriate for TOC referrals to the FMC outpatient pharmacist by utilizing a referral diagram and clinical judgment. The referral diagram gave examples of patients who would be appropriate for TOC referrals. These patients included individuals with certain disease states, patients who were non-adherent to medications, or any patient who the inpatient pharmacist thought would be appropriate for referral based on patient specific factors. Referrals were sent to the FMC outpatient pharmacist via electronic health record inbasket messaging and the outpatient pharmacist contacted patients to schedule visits.

This study did not show a significant increase in pharmacist-led TOC visits completed after the implementation of the pharmacist-to-pharmacist inbasket messaging referral system. However, due to study limitations and how pharmacist-led patient visits have shown improved patient satisfaction at FMC, the implementation of a pharmacist-to-pharmacist referral system might be worth implementing again in the future.

# Postgraduate Pharmacy Resident Research Projects

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KAYLIN MADDY

PARK NICOLLET HEALTH SERVICES

## Expanding the Use of SGLT2 Inhibitors for Renal Benefits in Patients with Type 2 Diabetes in the Primary Care Setting

*Background/Purpose:* FDA approval for canagliflozin (Invokana) was expanded to include reduced risk of end-stage kidney disease and worsening of kidney function in patients with type 2 diabetes and albuminuria. The purpose of this project was to evaluate pharmacists' ability to increase utilization of SGLT2 inhibitors in patients with type 2 diabetes and nephropathy in the primary care setting, specifically increasing use by 25% in medication therapy management (MTM) eligible patients by May 1st, 2020.

*Methods:* Eligible patients included those seen in two Park Nicollet primary care departments within the last year with type 2 diabetes, A1c >7.5%, GFR >45 mL/min and albumin/creatinine ratio >300 mg/g. Patients either were offered a MTM visit to discuss initiation (MTM eligible) or had recommendations sent to their providers (MTM ineligible) depending on their insurance source. Patients were seen from March 1st, 2020 through May 1st, 2020. The primary outcome was the percentage of MTM eligible patients initiated on SGLT2 inhibitor therapy. Secondary outcomes included characteristics of patients initiated on therapy, tolerability, and reasons for unsuccessful initiation (MTM eligible) and number of patients identified and deemed appropriate, recommendations given, and reasons for inappropriate candidates (MTM ineligible).

*Results:* Sixty-four patients were identified as potential candidates for SGLT2 inhibitors. Eighteen (28%) patients were MTM eligible and two (11%) were initiated on therapy. Of MTM ineligible patients, 27 (57%) were appropriate candidates and recommendations were sent to their providers.

*Conclusions:* Pharmacists are an effective resource in helping to identify and expand utilization of SGLT2 inhibitor therapy.

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SARA MAKI

MINNESOTA COMMUNITY CARE

## Redefining Diabetes Education in a Primary Care Clinic: A Needs Assessment

Type 2 diabetes is a chronic illness that disproportionately affects people with lower socioeconomic status, yet the cost of care can be staggering. The American Diabetes Association estimated that the total cost of care in 2017 was \$327 billion<sup>1</sup>. Health professionals need to find effective and efficient ways to support patients in achieving well-controlled disease and limit comorbidities. Education is a key component of chronic disease management and interprofessional approaches delivered repeatedly over the long term may be an effective way to deliver care and improve outcomes<sup>2</sup>, but it is critical to assess the priorities and preferences of various stakeholders to ensure that such methods are sustainable.

Through the surveying of patients, providers, and administration, several themes were revealed that can inform future educational initiatives at a primary care clinic that serves diverse patients. These include: the importance of interprofessionalism, the value of didactic education, the desire to define more patient-centered clinical objectives than hemoglobin A<sub>1c</sub>, and the necessity of appropriate planning for logistical issues such as workflow and sustainable funding.

# Postgraduate Pharmacy Resident Research Projects

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MCKENZIE MOORE

ST. CLOUD VA HEALTH CARE SYSTEM

## Reducing The Rate Of Fluoroquinolone Prescribing In The Outpatient Setting Utilizing Educational Outreach And Audit And Feedback Approach

*Background:* Fluoroquinolones are the third most commonly prescribed outpatient class of antibiotic in the United States with an estimated 115 prescriptions per 1000 persons annually. These antibiotics are frequently prescribed due to their broad spectrum of activity against gram-positive and gram-negative bacteria. Although thought to be generally well-tolerated, medications in this class carry a risk of many disabling and potentially irreversible serious adverse reactions. Given the permanence and severity of these adverse effects, prescribing practices need to be improved.

*Methodology:* Providers working in primary care, urology, and urgent care were presented education regarding risks associated with fluoroquinolones, alternative treatment options, and resources available for antimicrobial stewardship. Prescribing totals from the previous year were provided as a baseline and pocket cards for convenient reference of preferred antibiotic regimens for common infections were provided. Follow-up emails were sent to each provider on a monthly basis to include number of prescribed fluoroquinolones with a comparison of number from the same month of the previous year. Emails also include relevant information including associated risks with fluoroquinolone use, pertinent guideline development, and antimicrobial stewardship updates.

*Results:* The total number of prescriptions over the months of December to April decreased from FY18 to FY19 (532 vs. 331). When evaluating by care area, primary care, urology, and urgent care each had improved volumes of prescribing.

*Conclusions:* Providing educational outreach with audit and feedback follow-up to providers may improve volume of prescribing medications that have the potential to cause patient harm.

# Postgraduate Pharmacy Resident Research Projects

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TRAM ANH NGUYEN

WALGREENS PHARMACY/BETHESDA

## Assessment of Pharmacist Education to Incorporate Continuous Glucose Monitoring into a Family Medicine Clinic

*Objective:* The purpose of this study was to increase the percentage of all patients with diabetes using continuous glucose monitoring (CGM) systems to 25% by April 1, 2020. Additionally, this study aimed to increase physician confidence in prescribing and interpreting data provided by CGM to make clinical decisions and to identify prescriber perceived barriers of incorporating CGM into patients' diabetes management.

*Methods:* This quality improvement study was conducted at M Health Fairview Bethesda Family Medicine Clinic. A CGM binder was assembled that contained information to interpret CGM systems data, steps to download data from the device, patient education to initiate the device, and the process and criteria for CGM coverage based off of Minnesota insurance. Clinic physicians were educated on the materials within the binder at a scheduled education session. The number of patients prescribed a CGM system was extracted from Epic's Reporting Workbench before and after CGM education. Physicians were contacted by email to anonymously complete an electronic pre and post CGM education survey to measure the change in confidence in utilizing CGM systems.

*Results:* A total of 601 patients were diagnosed with Type 1 or Type 2 diabetes. The number of patients utilizing CGM systems to monitor their blood glucose increased from 17 (3%) to 31 (5%). Physicians' confidence in utilization of CGM systems to manage patients with diabetes modestly increased.

*Conclusions:* CGM system uptake into patients' diabetes management increased by 82%; however, the primary objective to increase CGM system utilization to 25% for all patients with diabetes was not met.

# Postgraduate Pharmacy Resident Research Projects

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SARAH SHOCKLEY

FAIRVIEW PHARMACY SERVICES

## Retrospective Analysis Of Billing Model Comparison Data For Medication Therapy Management Services

*Background/Purpose:* Review billing patterns across medication therapy management services (MTM) at M Health Fairview Clinics based on the setting (primary versus specialty clinic), experience of the pharmacist (by range of years of experience in MTM), and billing model (time versus complexity) to determine if there are similarities or differences.

*Methodology:* A list of MTM pharmacists was generated, and pharmacists who started after January 2019, were resident preceptors, or practiced less than twice per week were excluded. A list of encounters from January 2019 through June 2019 was generated from EPIC. Excluded encounters included: consults, single disease state-focused research studies, and smoking cessation visits. A regression analysis was used to determine if setting, experience of the pharmacist, billing model, or other secondary variables were correlated to billing.

*Results:* Of the 6,009 encounters reviewed, the median billing time was 30 minutes and the pharmacist assessed an average of 10 medications and 4 disease states. Of the variables tested, number of medications assessed, number of DTPs resolved, variation by specific pharmacist, patient variation, and office versus telephone visit were successfully correlated to the amount of time billed. All other variables showed no correlation.

*Conclusion:* Pharmacists with less MTM experience did not have a higher average billing time per encounter compared to pharmacists with more MTM experience. A pharmacist's personal approach and patient population may determine billing variation compared to time in practice or practice area (primary care versus specialty). There was no difference in billing amount with billing time versus complexity.

# Postgraduate Pharmacy Resident Research Projects

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ALICIA SMITH

FIRSTLIGHT HEALTH SYSTEM

## Development and Implementation of an Antimicrobial Stewardship Program at a Rural Community Emergency Department and Urgent Care

*Purpose:* The goal of this quality improvement project is to design and implement an antimicrobial stewardship program that aims to improve patient safety through decreasing the rate of inappropriate treatment durations and inappropriate antibiotic choices in an outpatient setting (emergency department (ED) and urgent care (UC)).

*Methodology:* A retrospective review of outpatient (ED/UC) antibiotic prescribing from October to December 2019 was performed. Data collection included diagnosis, antibiotic choice, duration of therapy, and how often therapy needed to be changed based on culture results for antibiotics prescribed during this timeframe. Welia Health pharmacists were also surveyed to understand what antibiotic questions were being asked by providers and determine where a need for further education/assistance was needed. After data collection and analysis was performed, high priority conditions were identified and treatment algorithms based on guideline recommendations and local resistance rates were created in an effort to provide guidance on antibiotic prescribing for conditions commonly seen in the ED/UC settings.

*Results:* From October to December 2019, there was a total of 615 encounters where antibiotics were prescribed from the emergency department and urgent care. High priority conditions were identified as being urinary tract infections and skin and soft tissue infections. Of the 615 encounters, 104 encounters were regarding urinary tract infections (including pyelonephritis) and 94 encounters were regarding skin and soft tissue infections.

*Conclusion:* Implementation of a local empiric treatment algorithm for commonly encountered conditions in the ED/UC could be beneficial to improve antimicrobial stewardship and patient safety.

# Postgraduate Pharmacy Resident Research Projects

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## TYLER STEVENS

### CENTRACARE HEALTH – ST. CLOUD

#### Implementation of pharmacist interpretation of pharmacogenomic test results ordered by behavioral health providers

*Background/Purpose:* There is large interpatient variability in medication response. Pharmacogenomics (PGx) aims to ascertain how a patient's genetics may affect this variability. FDA issued statements to PGx testing companies have resulted in medications being removed from PGx result reports and created an obstacle for physicians to interpret PGx tests. The aim of this project was to implement a process of pharmacist interpretation of pharmacogenomic test results to expand pharmacy services, improve and expand utilization of pharmacogenomic testing and identify areas to improve these processes.

*Methodology:* The pharmacist worked directly with members of the genetic counseling department to optimize a process of referrals, patient education and reporting of results to ordering providers. Providers from the Behavioral Health (BH) department were educated at a BH meeting about the pharmacist interpretation service. The pharmacist set up one-on-one meetings with BH providers to provide further education on the process. The pharmacist interpreted PGx results through medication therapy management (MTM) visits with referred patients. A MTM visit structure and documentation form was created to provide consistent documentation and interpretation of results. The team analyzed the process to determine areas for improvement moving forward. Providers were to have been sent anonymous paper surveys for their feedback on the process but data collection was limited due to COVID-19.

*Results:* Areas for improvement identified in the project include efficiency in the referral process, documentation of results, integration of clinical decision support software, implementing a process for interpreting results without guideline recommendations and education of providers and patients on PGx testing. Provider surveys would have been analyzed to determine factors affecting rates of ordering PGx tests and for strengths and areas for growth in both the referral process and returning of results to physicians. As a result of COVID-19, these were not collected due to recommendations by the IRB to stop data collection outside of telehealth patient visits.

*Conclusion:* We believe the one-on-one contact between the pharmacist and provider may increase utilization of PGx testing. We identified areas for growth to improve the referral process, education of patients and how results are reported in the medical record and to physicians. Focusing on these areas will help to optimize pharmacist-led pharmacogenomic services to enhance the care of patients utilizing PGx testing and to expand these services to other patients.

# Postgraduate Pharmacy Resident Research Projects

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MEGAN TAPP

ESSENTIA HEALTH

## Effect Of Pharmacy-Based Prior Authorization Processing For Self-Administered Medications On Provider Satisfaction And Quality Metrics

*Purpose* – Prior authorization (PA) is required for many self-administered medications and may be a barrier to timely medication acquisition. The purpose of this study was to evaluate effects of pharmacist-based PA processing on quality metrics and satisfaction among outpatient pharmacy and medical providers in a regional health system.

*Methods* – This was a mixed methods study. Baseline data was obtained from outpatient pharmacists, technicians, and select provider specialties via REDCap survey in November 2019, with follow-up surveys distributed March 2020. Knowledge and satisfaction were measured using 0.0-10.0 scales (0.0 = “not at all,” 10.0 = “very”). Quality metrics including total number of PAs completed, number avoided (baseline = 0), and average time in work queue were extracted and pre-post changes assessed.

*Results* - Fifty-one responded to pre and post-survey. Of these, 35% were medical providers. Significant improvements were seen in perceived PA process burden ( $p = 0.001$ ), satisfaction with the PA process ( $p < 0.001$ ), and satisfaction with time for PA approval ( $p < 0.001$ ). Perception of time required for PA completion decreased significantly ( $p = 0.001$ ). No other significant response changes were found. Significant quality metric improvements were seen for average days in work queue ( $p = 0.016$ ) and number of PAs avoided ( $p = 0.016$ ).

*Conclusions* - Significant improvements were observed for perceived PA process burden, timeliness, and overall satisfaction, as well as average time in work queue and number of PAs avoided due to pharmacist intervention. This study supports continued use of a pharmacist-based PA processing team.

# Postgraduate Pharmacy Resident Research Projects

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TAYLOR THOFT

CENTRACARE HEALTH – PAYNESVILLE

## Expansion of Medication Therapy Management Services to Rural Sites for Patients with an Employer-Sponsored Health Plan

Previous literature supports that pharmaceutical care provided in the ambulatory care setting can improve clinical, economic, and humanistic outcomes for recipients, and when utilized in employer-provided health plans can lead to reduced spending on healthcare costs by employers. A large health system in central Minnesota offers an Employee Medication Therapy Management (MTM) benefit that offers financial incentives to meet with an MTM Pharmacist for a comprehensive review of one's medications. Currently, this program is underutilized due to both lack of awareness of the program and geographic limitation of in person encounters for employees in the Western region of the health system. This project sought to increase the utilization of the Employee MTM program and advocate for ambulatory pharmacy services across the far reaches of the health system, with a goal of averaging three visits per week, including both in-person visits and telephonic visits. Over the course of two months, 10 MTM meetings for this employee benefit program were conducted. While the objective was not met, this project did establish practice management infrastructure for further exploration.

# Postgraduate Pharmacy Resident Research Projects

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## KYLE WALBURG

### PHARMACEUTICAL LEADERSHIP YEAR 2 – MOBE

#### Pharmacist Impact on Diabetes Management in a Short-Staffed Primary Care Clinic

*Background/Purpose:* To improve diabetes control at a primary care family medicine clinic by focusing on multi-faceted, team-based care with a pharmacist-driven initiative focusing on outreach, medication assessment and coverage, and follow-up. A secondary goal of this project was to assess provider self-assessed impact of a pharmacist delivering care on their perceived burnout.

*Methodology:* Eligible patients are those with a type 2 diabetes mellitus diagnosis between 18-80 years of age with an A1c >8%. Patients were excluded if their diabetes was managed by endocrinology, if their primary care provider could be attributed to a different clinic, or if they resided in a transitional care unit or skilled nursing facility for greater than 3 months. Eligible patients were seen by the pharmacist for comprehensive medication management visits; with regard to diabetes, evidence-based guidelines will be followed to help patients achieve a goal A1c. Patients were identified by schedule scanning, pharmacist or provider referral, or through EHR-generated lists of patients not meeting A1c goals.

*Results:* During the four months of data collection, incremental increases were seen monthly with regard to the number and percentage of patients removed from EHR-generated lists, indicating more patients were meeting their A1c goals. Additionally, outreach to patients on those lists increased by nearly 30% over four months. Providers noted they felt more confident in their treatment decisions, felt that access to care was greatly improved, and felt that knowing medication coverage and copays prior to entering patient rooms significantly improved their practice.

*Conclusion:* Although this was a short-term quality improvement project, results suggest that having a pharmacist-led initiative to improve diabetes care for patients in a short-staffed primary care clinic not only improved the quantity of patients at goal and improved outreach, leading to more diabetes-related visits. Providers also indicated that a specific process for care using the pharmacist as an integral team-member subjectively improved their perceived burnout.

# Postgraduate Pharmacy Resident Research Projects

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TXIA XIONG

MINNESOTA COMMUNITY CARE

## **Effectiveness and feasibility of using videos as a health communication intervention during comprehensive medication management visits with Hmong patients at Minnesota Community Care**

Hmong patients have been coming to Minnesota Community Care (MCC) since they immigrated to the United States in the mid-1970s. Despite having learned a great deal about the Hmong people and their culture, they remain one of the least studied Asian-American subgroups, and providing adequate health care for them continues to be a challenge. Multiple barriers contribute to a lack of proper health management for chronic diseases and have likely contributed to the health disparities they continue to face. Health care providers must work creatively and collaboratively with Hmong patients to improve self-management of their chronic diseases.

The purpose of this study is to implement videos of a Hmong family's experience with medications at comprehensive medication management (CMM) visits to evaluate if it will result in improved medication adherence in Hmong patients. The feasibility and effectiveness of the videos will be evaluated by comparing pre- and post- surveys given before the video is shown at the initial visit and again at a follow-up visit. Patients will be invited to participate in this study if they are Hmong, have at least one chronic disease diagnosis, and have a scheduled appointment with a pharmacist or provider. Patient recruitment and data collection are currently halted due to unforeseen circumstances. However, sharing the videos preemptively at CMM visits and throughout the community via radio or the internet may still be beneficial to improve the self-management of chronic diseases.