Mid-South Regional

Pharmacy Residents Conference

April 21-22, 2016

Fogelman Executive Conference Center

University of Memphis

Memphis, TN

Hosted by the Pharmaceutical Department at St. Jude Children's Research Hospital

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St. Jude Children's Research Hospital

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Finding cures. Saving children.

WELCOME!

Welcome to the 2016 Mid-South Regional Pharmacy Residents Conference! We are delighted that you would join us in this eighth of the continuing series of annual residents conferences based in the mid-south. You are our guests, and we wish for this to be a memorable meeting during which new knowledge and best practices are shared, and professional relationships are begun and enhanced. The opportunity to present the results of your work to an audience of peers is an important part of our professional collaboration, and is foundational in the propagation of meaningful knowledge. The occasion of this meeting also draws individuals together who might not otherwise have an opportunity to interact.

Congratulations to you, Residents, who have invested so much of yourselves to develop a proposal, design methods, collect and analyze data, form conclusions and generate recommendations. Many thanks also go to Preceptors and Program Directors who have served as project advisors and mentors, and who have provided encouragement and guidance to these residents in this work.

We would like to thank Dr. Sara White for providing our opening session, Drs. Alison Apple, Kelly Bobo, Kristie Gholson, Ben Gross, Marilyn Lee, Scott Malinowski, Shawn McFarland, Alicia Perry, Leigh Ann Ross and Casey White for providing valuable input and assistance in developing this conference, and the many St. Jude employees who have collaborated to put together the details that make this meeting possible.

Best wishes for your every success!

William Greene, PharmD
Chief Pharmaceutical Officer
Pharmaceutical Services

Mary Relling, PharmD
Chair
Pharmaceutical Sciences

Mid-South Regional Pharmacy Residents Conference
April 21 and 22, 2016
Continuing Education Announcement
Target Audience for this activity: Pharmacists

CPE credit will be made available for the following:

Thursday, April 21	Friday, April 22
12:25-1:25pm: Keynote Speaker Presentation	8:20-10:00am: Session 3 Presentations
1:40-3:20pm: Session 1 Presentations	10:20-11:40am: Session 4 Presentations
3:40-5:20pm: Session 2 Presentations	12:45-2:25pm: Session 5 Presentations

Activity Type: This program is a Knowledge-Based Activity available up to a maximum of **7.00** Contact Hours of ACPE credit (0.70 CEU). The ACPE UAN for this activity is **0181-0000-16-(presenter code)-L04-P**. The three digit presenter codes will be made available to attendees of the session at the beginning and end of each presentation assigned for this event. To earn credit participants are required to complete the three digit presenter codes on their attendance forms as proof of their attendance for that session.

Presenters:

Session Presenters: Please refer to the "Sessions" section of this program booklet for specific details on each presenter

Learning Objectives: This program is designed to provide an opportunity for pharmacy residents to make formal, professional presentations of their own projects or research, and also exchange information and ideas with fellow residents and preceptors. At the completion of this event, pharmacists will be able to: discuss contemporary issues in pharmacy practice that have been researched and presented by pharmacy residents and fellows; Compare and contrast completed research, research in progress and special projects conducted to investigate solutions and improvements to contemporary issues in pharmacy practice; Discuss issues confronting institutional and community-based practice; Participate in an atmosphere that encourages professional network support among conference participants.

Conflict of Interest: None of today's speakers have any conflicts of interest to disclose. St. Jude's Continuing Pharmacy Education Program assesses conflict of interest with its faculty, planners, manager, and other individuals who are in a position to control the content of CPE activities for the Mid South Regional Pharmacy Residency Conference. All potential conflicts of interest that are identified are thoroughly reviewed for fair balance, scientific objectivity of studies used in the activity, and potential patient care recommendations.

Accreditation: St. Jude Children's Research Hospital, Pharmaceutical Department, is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. Pharmacy continuing education credit will be available to all participants who attend, sign in, and complete presenter evaluation forms. Please note: no paper credit certificates will be provided to participants. Instead, all credits obtained will be loaded into the Mycpemonitor.com website and viewable within three weeks following the conference.

2016 Mid-South Regional Pharmacy Residents Conference

Keynote Speaker

Sara J. White, MS, FASHP

Sara J. White, MS and FASHP, is currently Faculty for the Pharmacy Leadership Academy. From 1992 to 2003 Sara was Stanford Hospital and Clinics Director of Pharmacy and Clinical Professor at UCSF School of Pharmacy. She was Associate Director of Pharmacy and Professor at the University of Kansas Medical Center from 1972-1992. Sara completed a BS in Pharmacy from Oregon State University, MS from Ohio State University and an ASHP accredited Residency at the Ohio State University Hospitals and Clinics. She served as ASHP president in 1996 and received the Harvey A.K. Whitney Award in 2006.

2016 Conference Agenda
Fogelman Executive Conference Center

	Thursday, April 21, 2016	
9:30 a.m. – 12:00 p.m.	Registration Check-in	Main Lobby
9:30 a.m. – 11:45 a.m.	Presentation load for Thursday's presenters	Room 218
11:00 a.m. – 12:00 p.m.	Boxed lunches served (lower atrium)	Lower Atrium
11:30 a.m. – 12:00 p.m.	Moderators and Evaluators Meeting	Conference Room 217
12:05 p.m. – 12:15 p.m.	**Conference Convenes** Welcome! Orientation/Housekeeping Dr. William Greene, St Jude Children's Research Hospital	Amphitheater 136
12:15 p.m. – 12:20 p.m.	Dr. Bryan White, Pharm.D – ASHP New Practitioner Forum	Amphitheater 136
12:25 p.m. – 1:25 p.m.	**Opening Session** Keynote Speaker: Dr. Sara J. White	Amphitheater 136
1:40 p.m. – 3:20 p.m.	Session I Presentations	Conference Rooms 123, 215, 217, 219, 308, 315
3:20 p.m. – 3:35 p.m.	Refreshment Break	2nd Floor and 3rd Floor Lobby
3:40 p.m. – 5:20 p.m.	Session II Presentations	Conference Rooms 123, 215, 219, 308, 315
5:30 p.m. – 7:00 p.m.	Reception	Lower Atrium
5:30 p.m. – 7:00 p.m.	Presentation load for Friday's presenters	Room 218
	Friday, April 22, 2016	
6:30 a.m. – 7:30 a.m.	Cont'd - Presentation Load for Friday's presenters	Room 218
6:30 a.m. – 7:55 a.m.	Continental Breakfast	Lower Atrium
8:00 a.m. – 8:15 a.m.	Opening Remarks Dr. William Greene	Amphitheater 136
8:20 a.m. – 10:00 a.m.	Session III Presentations	Conference Rooms 123, 215, 219, 308, 315
10:00 a.m. – 10:15 a.m.	Refreshment Break	2nd Floor and 3rd Floor Lobby
10:20 a.m. – 11:40 a.m.	Session IV Presentations	Conference Rooms 123, 215, 217, 219, 308, 315
11:40 a.m. – 12:40 p.m.	Lunch	3rd Floor Dining Room, Lower Atrium
12:40 p.m. – 2:20 p.m.	Session V Presentations	Conference Rooms 123, 215, 219, 308, 315
2:30 p.m. – 3:00 p.m.	Facilitator/Evaluator Wrap-up Meeting	Conference Room 217

Please use QR Code for Evaluations, or return completed evaluation forms to each session evaluator.
All attendees are encouraged to stay through the end of the conference to ensure that the last presenters have the same opportunity to share their work with an audience and to receive feedback.

Frequently Asked Questions

What is the difference between a moderator and an evaluator at this conference?
Evaluators attend the presentation, gather evaluation forms and provide the presenter feedback immediately after their presentation. Moderators introduce the speaker, assure that the session stays on time, and provide overall facilitation of each session.

How do I obtain my CE credits for attending the conference?
You will complete a UAN form for each day of the conference. Presentations attended are noted by you with a UAN number. Sheets are turned into the Registration table at the end of each day. For all participants who completed an attendance record and notified us of their personal e-Profile ID (NAPB ID) number, a complete record of all credits can be found on the Mycpemonitor.com website within three weeks of conference completion. No paper certificates are mailed.

Where and when can I load my presentation?
Thursday presenters are able to load on Thursday, April 21st, from 9:30 am–11:45 am in room 218. *We are unable to accept any Thursday presentations after 11:45 am. Additionally, we are not able to load any Friday presentations until Thursday evening.* **Friday presenters are able to load their presentations Thursday evening from 5:30 pm-7:00 pm in room 218.** *We are unable to accept any presentations to load after 7:00 pm.* If you are presenting Friday and are unable to load Thursday evening, **you may load Friday morning, April 22nd, from 6:30 am–7:45 am**.

How long do I have to present?
Your presentation is scheduled in 15 minute increments and timed by a moderator. The general rule of thumb is 12 minutes for presentation, 3 minutes for questions, totaling 15 minutes. Your moderator will ask you to conclude if you go over your time.

Will we utilize QR codes again for evaluations instead of paper?
Yes, evaluations will be completed by scanning a QR Code for each session. Before the conference, please download a QR Reader to your smartphone. You will then pick the speaker's name from a drop-down and complete the evaluation for that presenter. Evaluation summaries will be emailed to presenters shortly after the conference. A hard copy may be provided upon request. There will also be paper copies of evaluations available in a carbonless copy format. If you use paper, please turn in **BOTH** copies to your evaluator.

Who provides my feedback?
Feedback is officially provided by the Evaluator who is assigned to each room and session.

Where do I park?
A parking garage is located next to the Fogelman Executive Conference Center. You will receive parking passes in registration packets to validate parking as you leave. You will swipe the card in a kiosk when exiting the garage. Your pass is good for 1 swipe only. NOTE ~ passes are extremely sensitive and may deactivate if placed near or touched by keys, credit cards, or cell phones.

Wi-fi?
Free Wi-Fi is available for your use in the Fogelman Executive Conference Center. No password is necessary.

What is the Social Event?
Thursday, April 21st from 5:30 pm – 7:00 pm there will be a reception in the lower atrium of the Fogelman Executive Conference Center for you to enjoy. Hors d' Oeuvres will be served along with an available cash bar.

Job Postings
There will be a large white board placed next to the registration table where **you may post or browse any related job postings**. Please feel free to utilize this board to your benefit!

How to load and use a QR Scanner App for Evaluations

You may have seen a QR (quick response) code while shopping in a grocery store, browsing the Web or walking down the street of a busy city. QR codes look similar to bar codes, but they're square, instead of rectangular, and they have lots of pixelated boxes instead of simple vertical lines. QR codes are capable of holding much more information than bar codes, and they're often used to promote websites or products. If you have a smartphone, you can scan a QR code.

Step 1
Download and install a QR code app on your smartphone if you don't yet have one. Open your App Store, Market, Marketplace or App World application (for the iPhone, Android, Windows Mobile and BlackBerry platforms, respectively).

Step 2
Search for "QR code reader," or “QR code scanner” and then download and install a free app. The app should be named something to the effect of "QR Code Scanner" or "QR Scanner." There are paid versions of these kinds of apps, but the free ones work just as well.

Step 3
Open the QR code reader on your smartphone. A new window should open with a square in the middle of it.

Step 4
Hold your device over a QR Code so that it’s clearly visible within your smartphone’s screen. Two things can happen when you correctly hold your smartphone over a QR Code.

1. The phone automatically scans the code.
2. On some readers you have to press a button to snap a picture, not unlike the button on your smartphone camera.

Step 5
Your smartphone then reads the code and navigates to the intended destination, which may or may not happen instantly. It may take a few seconds to load.

Mid-South Regional Pharmacy Residents Conference QR codes are unique for each session. Please be sure to scan the correct code for each session to ensure you have access to the appropriate presenter pool.

2016 Conference Reminders

- Thursday presenters load presentations Thursday morning from 9:30 am – 11:45 am. Friday presenters load presentations Thursday evening from 5:30 pm – 7:00 pm and Friday morning from 6:30 am – 7:45 am.

- Free Wi-Fi is available for your use in the Fogelman Executive Conference Center. No password is necessary.

- Please complete an evaluation for each presenter you observe via QR code or paper evaluation. Paper evaluations are in carbonless copy form this year. Completed paper evaluations may be given to your session Evaluator. Please give BOTH carbon copies to your evaluator. Evaluations submitted by QR code are electronically received by the conference administrator.

- See QR scanner instructions in the provided booklet, if needed.

- QR scanner codes for evaluations are located on the sign of each session door as well as in the booklet you receive at registration.

- Your packet contains a separate UAN form for Thursday and Friday (each day is a different color). Be sure you use the correct one!

- Please return your completed UAN form to the registration desk at the end of each day. **Ensure UAN form is SIGNED and includes your NABP ID to receive proper credit.**

- Your packet contains 1 parking pass for Thursday and 1 for Friday. Keep parking passes away from your keys, credit cards, and cell phone to avoid deactivation!

- Please be prompt for each presentation you attend.

- You are encouraged to stay through the end of the conference to ensure that the last presenters have the same opportunity to share their work with an audience and to receive feedback regarding their work.

- You may pick up copies of your presentation evaluations (submitted on paper) at the registration desk. They will be available at the end of day Thursday and the end of day Friday. Summarized reports will be emailed to you following the conference for any electronic evaluations you receive.

- Job postings may be placed on the white board at the registration desk. Please use this board to your benefit!

Thursday, April 21
Session I

Room 123

1:40 **Johnson, Laura – PGY1 Community Pharmacy**
University of Mississippi School of Pharmacy – Oxford, MS
PATIENT KNOWLEDGE AND UTILIZATION OF MEDICARE ASSIGNMENT OF BENEFITS FOR DIABETIC TESTING SUPPLIES IN A COMMUNITY PHARMACY

2:00 **Dorris, John – PGY2 Informatics**
Lipscomb University College of Pharmacy – Nashville, TN
CHARACTERIZING TAXANE ADVERSE EVENTS FROM CHEMOTHERAPY COMPUTERIZED PROVIDER ORDER ENTRY AND NURSING SYSTEM DOCUMENTATION

2:20 **March, Katherine – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
OUTCOMES IN CIRRHOTIC PATIENTS WITH SYSTEMIC INFLAMMATORY RESPONSE SYNDROME RECEIVING RIFAXIMIN

2:40 **Quinn, Melissa – PGY2 Pediatric Oncology**
St. Jude Children's Research Hospital – Memphis, TN
SAFETY OF PENTAMIDINE PROPHYLAXIS FOR *PNEUMOCYSTIS JIROVECII* PNEUMONIA (PCP) IN PEDIATRIC ONCOLOGY PATIENTS.

3:00 **Casey, Benjamin – PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Memphis, Memphis, TN
PROCALCITONIN-GUIDED DISCONTINUATION OF ANTIBIOTIC THERAPY IN CRITICALLY ILL PATIENTS WITH PNEUMONIA: AN INSTITUTIONAL REVIEW

Room 215

1:40 **Schuchard, Sarah – PGY1 Pediatrics**
SSM Health Cardinal Glennon Children's Hospital – St. Louis, MO
RETROSPECTIVE REVIEW OF MEROPENEM UTILIZATION AT A PEDIATRIC TERTIARY FACILITY

2:00 **Yaeger, Jaclyn – PGY2 Cardiology**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
COMPREHENSIVE HEART FAILURE MEDICATION MANAGEMENT PROVIDED BY A CLINICAL PHARMACY HOSPITAL TO HOME (H2H) SERVICE

2:20 **Sewell, Mary J - PGY2 Ambulatory Care**
University of Mississippi School of Pharmacy – Oxford, MS
COMPARISON OF PHARMACIST TO PHYSICIAN MEDICARE WELLNESS SERVICES

2:40 **Shukla, Ankit – PGY1 Pediatrics**
SSM Health Cardinal Glennon Children's Hospital – St. Louis, MO
STRESS ULCER PROPHYLAXIS IN THE PEDIATRIC INTENSIVE CARE UNIT

3:00 **Russell, Gabrielle - PGY1 Pediatrics**
Le Bonheur Children's Hospital – Memphis, TN
EVALUATION OF LEVETIRACETAM FOR EARLY POSTTRAUMATIC SEIZURE PROPHYLAXIS IN PEDIATRIC PATIENTS WITH TRAUMATIC BRAIN INJURY

Thursday, April 21
Session I

Room 217

1:40 **Riha, Heidi – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
HYPERCHLOREMIA VERSUS NON-HYPERCHLOREMIA IN INTRACEREBRAL HEMORRHAGE PATIENTS TREATED WITH HYPERTONIC SALINE: A PILOT STUDY

2:00 **Todd, Tabetha – PGY1 Pharmacy Practice**
Methodist Le Bonheur Germantown Hospital – Memphis, TN
ORAL ANTICOAGULANT SAFETY AND EFFICACY IN PATIENTS WITH ATRIAL FIBRILLATION AND END STAGE RENAL DISEASE

2:20 **Martinez, Jonathan – PGY1 Pediatrics/Pharmacy Practice**
Arkansas Children's Hospital/University of Arkansas for Medical Sciences – Little Rock, AR
QUALITY IMPROVEMENT: CREATION OF THE BEST POSSIBLE HOME MEDICATION LIST UPON ADMISSION

2:40 **Shah, Samarth – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
COMPARISON OF PARENTERAL OPIOID DOSING IN SICKLE CELL DISEASE PATIENTS WITH VASO-OCCLUSIVE CRISIS

3:00 **Brandl, Emily – PGY1 Pharmacy Practice**
VAMC Memphis
OUTCOMES OF A PHARMACIST-LED TRANSITIONAL CARE AND POLYPHARMACY CLINIC

Room 219

1:40 **Yeary, Julianne – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
UTILIZATION OF IV LOOP DIURETICS IN SYSTOLIC HEART FAILURE WITH VOLUME OVERLOAD

2:00 **Skaggs, Katie – PGY1 Pharmacy Practice**
Baptist Health Medical Center - North Little Rock
IMPLEMENTATION OF A PHARMACIST-DRIVEN DIABETIC KETOACIDOSIS (DKA) CONSULT SERVICE

2:20 **Curtis, Christa – PGY1 Pharmacy Practice**
St. Dominic Jackson Memorial Hospital – Jackson, MS
IMPACT OF A PHARMACIST-LED TELEINSULIN PROGRAM

2:40 **Hardison, Daniel – PGY1 Pharmacy Practice**
Baptist Health Medical Center - North Little Rock
IMPLEMENTATION OF A PHARMACY DRIVEN PROCALCITONIN ALGORITHM IN THE INTENSIVE CARE UNIT

3:00 **Rogers, Whitney – PGY1 Pharmacy Practice**
St. Dominic Jackson Memorial Hospital – Jackson, MS
IMPACT OF A RESPIRATORY THERAPIST DRIVEN AEROSOLIZED BRONCHODILATOR PROTOCOL

Thursday, April 21
Session I

Room 308

1:40 **Painter, Chelsa – PGY1 Pharmacy Practice**
Unity Health - White County Medical Center – Searcy, AR
ASSESSING THE IMPACT OF ANTIMICROBIAL STEWARDSHIP INTERVENTIONS IDENTIFIED BY CLINICAL PHARMACISTS IN A RURAL HOSPITAL USING A DATA MINING SURVEILLANCE SYSTEM

2:00 **Ingason, April – PGY1 Pharmacy Practice**
Jackson-Madison County General Hospital – Jackson, TN
EVALUATION OF PHENOBARBITAL USE IN PATIENTS WITH SEVERE ALCOHOL WITHDRAWAL

2:20 **Green, Brandon – PGY1 Pharmacy Practice**
Unity Health - White County Medical Center – Searcy, AR
EFFECTS OF LIPOSOMAL BUPIVACAINE FOR PERIARTICULAR PAIN CONTROL POST TOTAL KNEE ARTHROPLASTY: A RETROSPECTIVE COHORT STUDY.

2:40 **Guinn, Courtney – PGY1 Pharmacy Practice**
Jackson-Madison County General Hospital – Jackson, TN
EVALUATION OF KETOROLAC SAFETY AND EFFICACY IN POST-CORONARY ARTERY BYPASS GRAFTING (CABG) PATIENTS

3:00 **Pasternak, Amy – PGY2 Clinical Pharmacogenetics**
St. Jude Children's Research Hospital – Memphis, TN
EVALUATION OF A NEW FORMULARY VORICONAZOLE DOSING STRATEGY IN A PEDIATRIC POPULATION

Room 315

1:40 **Guerra, Gabriel – PGY2 Pharmacy Informatics**
HCA (Joint UT Institution) - Nashville, TN
ANALYZING AND UNIVERSALIZING THE COMPONENTS OF A CLINICAL DECISION SUPPORT PROJECT PRIORITIZATION TOOL

2:00 **Hicks, Megan – PGY1 Health-System Pharmacy Administration**
Regional One Health - Memphis, TN
IMPACT OF PHARMACY INTERVENTION ON ADMISSION MEDICATION RECONCILIATION

2:20 **Banjo, Temitayo - PGY1 Community Practice**
Walgreens Co. – Jackson, MS
GUARDIAN KNOWLEDGE AND PERCEPTION OF HUMAN PAPILLOMAVIRUS VACCINE AT THE COMMUNITY PHARMACY

2:40 **Burks, Ruby – PGY2 Health-Systems Pharmacy Administration**
HCA (Joint UT Institution) – Nashville, TN
CODED ADVERSE DRUG EVENTS AFTER ENTERPRISE IMPLEMENTATION OF SAFETY INITIATIVES INCLUDING A REAL-TIME CLINICAL SURVEILLANCE TOOL FOR PHARMACISTS

3:00 **O'Neal, Ryan – PGY1 Healthcare Administration**
Methodist University Hospital – Memphis, TN
EVALUATION OF URINE CULTURES OBTAINED FROM OUTPATIENTS SEEN IN THE EMERGERNCY DEPARTMENT

Patient Knowledge and Utilization of Medicare Assignment of Benefits for Diabetic Testing Supplies in a Community Pharmacy

Laura Johnson[1], Stephanie Kile[2], Scott Malinowski[1], Leigh Ann Ross[1], Lauren Bloodworth
[1]The University of Mississippi School of Pharmacy, Department of Pharmacy Practice
[2]Walgreens Company

Background/Purpose:

Diabetes affects 11.2 million Americans over the age of 65. The Centers for Medicare and Medicaid Services (CMS) recently made changes to the Assignment of Benefits (AOB) program which provides diabetes testing supplies for patients through Medicare Part B. Pharmacies that accept Medicare AOB provide patients with diabetic testing strips, lancets, insulin pumps, and/or therapeutic shoes or inserts. The patient is responsible for 20% of the Medicare-approved amount of the supplies and CMS reimburses the pharmacy 80% of the Medicare-approved amount.

The purpose of this project is to determine if familiarity and knowledge of Medicare AOB is a predictor of utilization of diabetic testing supplies. If a positive correlation exists, this could present an opportunity for community pharmacists to educate and assist patients with enrollment and utilization of Medicare AOB.

Methodology:

This is a retrospective chart review that will be performed at one targeted chain pharmacy. Medicare beneficiaries with a diagnosis of diabetes indicated by prescriptions filled from January 2015 to December 2015 for diabetes medications and/or testing supplies will be recruited to participate. A survey will be administered to determine the beneficiary's knowledge of Medicare benefits as it relates to diabetes. The survey will be compared to the patient's prescription fill history to correlate familiarity of AOB with utilization of Medicare AOB. Demographic data will be stratified to identify correlation between familiarity of Medicare AOB and age, education, and income.

Results: Pending

Conclusions: Pending

Presentation Objective: To determine if familiarity and knowledge of Medicare AOB is a predictor of utilization of diabetic testing supplies.

Self-Assessment Question: What factor(s) may determine if a Medicare patient utilizes Medicare AOB?

Title: “Characterizing taxane adverse events from chemotherapy computerized provider order entry and nursing system documentation.”

Jay Dorris; Daniel Favre; Julia Cartwright; Lipscomb University College of Pharmacy, Vanderbilt University Medical Center, Nashville, Tennessee.

Background/Purpose

Breast cancer is the most common cancer among women worldwide. In 2012, there were approximately 1.7 million new breast cancer cases diagnosed among women worldwide. Among conventional chemotherapeutic agents, taxane medications are among first-line chemotherapy options for the treatment of neoadjuvant and adjuvant breast cancer in initial and recurrent disease. Drug-induced adverse events, such as hypersensitivity reactions, are commonly associated with cancer treatment with taxane medications. Use of computerized provider order entry (CPOE) and electronic health record systems are one solution to assist with data collection and analysis of taxane hypersensitivity reactions. At Vanderbilt University Medical Center (VUMC), there is a locally developed oncology system known as the Vanderbilt Oncology Information System (VOIS). The VOIS platform allows for CPOE of chemotherapy orders and documentation functionality for daily practice in clinics.

Methodology

The primary objective of this study is to characterize and evaluate adverse reactions from taxane-based medications used in breast cancer. This study is a retrospective review of VOIS data to evaluate the relationship between chemotherapy protocol deviations and drug-induced adverse events documented in the nursing system. Taxane based chemotherapy will be defined as use of cabazitaxel, docetaxel, and paclitaxel in any formulation from January 2015 – December 2015. Data will be extracted from local databases from the CPOE and nursing systems using structured query language (SQL) and JavaScript Object Notation (JSON) queries.

Results

Study results for evaluation of the relationship between VOIS protocol deviations and documented hypersensitivity reactions are pending at the time of abstract submission.

Conclusions

Conclusions reached to date reiterate the challenges associated with interfacing and querying separate databases for clinical informatics systems within an institution. Variable documentation practices across information systems influence the availability and applicability of patient data for research purposes.

Presentation Objective

Describe the structure and utility of enterprise data warehouses on evaluating drug-related adverse events.

Self-Assessment Question

What is the name of a clinical information repository used for storage and analysis of healthcare data?

Outcomes in Cirrhotic Patients with Systemic Inflammatory Response Syndrome Receiving Rifaximin

Katherine L. March, Jennifer D. Twilla, Joyce E. Broyles, Lydia Hutchinson
Methodist University Hospital
Memphis, TN

Background/Purpose: Cirrhosis marks the final stage of chronic liver disease (CLD) and is accompanied by a host of serious complications. Evidence suggests that systemic inflammation and the development of the systemic inflammatory response syndrome (SIRS) are independently associated with in-hospital mortality and portal hypertension-related complications (PHRC). Recent literature theorizes that rifaximin may alter the inflammatory process leading to these devastating consequences. The aim of this study is to evaluate the impact of rifaximin on hospital outcomes in cirrhotic patients meeting SIRS criteria.

Methodology: A retrospective review of patients admitted to Methodist LeBonheur Healthcare adult hospitals between 8/2008-8/2015 was conducted in reverse chronological order.
Inclusion criteria: age≥18 years, ICD9-codes for CLD, and admission ≥24 hours. Exclusion criteria: admission for liver transplant, hepatocellular carcinoma, transition to hospice, and incomplete data points. Patient groups: RP (rifaximin prior to hospitalization) or NRP (no rifaximin prior). The rate of in-hospital mortality based on grade of SIRS criteria (<2 or ≥2 criteria) and MELD score as well as the development of PHRC were evaluated between the groups.

Results: To date, 315 patients have been screened with 250 included (n=45 RP; n=205 NRP). No significant differences in baseline characteristics were observed between groups. No significant differences for in-hospital mortality were observed in patients with SIRS<2 (0% RP, 1% NRP p=1) or SIRS≥2 (1% RP, 9% NRP p=0.27) or in patients with a MELD score of ≤18 (0% RP, 4% NRP p=1) or >18 (15% RP, 9% NRP p=0.46). No significant differences were seen in PHRC with SIRS<2 (73% RP, 56% NRP p=0.2) or SIRS≥2 (87% RP, 73% NRP p=0.2).

Conclusions: In our study, administration of rifaximin prior to hospitalization does not appear to improve in-hospital mortality or the development of PHRC in cirrhotic patients. Further studies examining the relationship between rifaximin and the inflammatory process in cirrhosis are needed.

Presentation Objective: Evaluate hospital outcomes in cirrhotic patients receiving rifaximin prior to hospitalization

Self-assessment question: Do cirrhotic patients being treated with rifaximin prior to hospitalization have improved outcomes?

Safety of Pentamidine Prophylaxis for *Pneumocystis jirovecii* Pneumonia (PCP) in Pediatric Oncology Patients.

Melissa Quinn, JT Fannin, Joseph Sciasci, Joshua Wolf, Hope Swanson, Allison Bragg, Jennifer L. Pauley, Kristine R. Crews, Delia Carias, David Gregornik, Patrick Campbell, Sima Jeha, Gabriela Maron, William Greene. St. Jude Children's Research Hospital, Memphis, TN.

Background/Purpose:
PCP is a potentially life-threatening opportunistic infection in children receiving immunosuppressive chemotherapy. Trimethoprim-sulfamethoxazole is the preferred agent for PCP prophylaxis. An optimal alternative has not been clearly identified for use in pediatric patients unable to tolerate trimethoprim-sulfamethoxazole. This study describes the safety and tolerability of aerosolized and intravenous (IV) pentamidine for PCP prophylaxis in children receiving immunosuppressive chemotherapy.

Methodology:
A retrospective chart review was conducted of pediatric oncology patients who received at least one dose of pentamidine for PCP prophylaxis between January 2007 and August 2014. The primary objective was to determine the rate of pentamidine discontinuation due to non-pancreatitis adverse drug events. The secondary objective was to determine the rate of pancreatitis associated with pentamidine using a surveillance definition. Cases were identified by ICD-9 codes and review of clinical records.

Results:
A total of 754 patients, median age 8 years (range 1 month-24 years), were evaluated. Routes of pentamidine administration included aerosolized (n=158), IV (n=508), and both (n=88). Twenty children (2.65%) developed non-pancreatitis adverse drug events which resulted in pentamidine discontinuation. The most common was anaphylaxis in seven patients (2 aerosolized versus 4 IV versus 1 both). Twenty-four children (3.18%) developed pancreatitis while receiving pentamidine (8 aerosolized versus 16 IV, p=0.3258). Three of these cases resulted in discontinuation of pentamidine. Eleven patients developed grade 2 pancreatitis and 13 patients developed grade 3 pancreatitis based on the Common Terminology Criteria for Adverse Events version 4.03.

Conclusions:
Both aerosolized and IV pentamidine have acceptable adverse event profiles in the pediatric oncology population, resulting in a low rate of discontinuation of the medication. While the overall rate of pancreatitis is concerning, the rate of discontinuation due to pancreatitis is low.

Presentation Objective:
Describe the safety of aerosolized and IV pentamidine for PCP prophylaxis in children receiving immunosuppressive chemotherapy at St. Jude Children's Research Hospital.

Assessment Question:
What is the incidence of pancreatitis associated with the administration of pentamidine for PCP prophylaxis?

a) <1
b) 1-<5%
c) 5-<10%
d) >10%

PROCALCITONIN-GUIDED DISCONTINUATION OF ANTIBIOTIC THERAPY IN CRITICALLY ILL PATIENTS WITH PNEUMONIA: AN INSTITUTIONAL REVIEW

Benjamin Casey, Maria Zhorne, Athena Hobbs
Baptist Memorial Hospital – Memphis
Memphis, TN

Background/Purpose:
The Surviving Sepsis Guidelines recommend the use of procalcitonin levels to aid in the discontinuation of antibiotics in patients who initially present septic but have no subsequent evidence of infection. Studies have shown that procalcitonin-guided discontinuation of antibiotics decreases the duration of antibiotics and hospital length of stay without increasing mortality. Currently, there is not a standardized protocol for using procalcitonin levels at Baptist Memorial Hospital-Memphis (BMH-Memphis). The aim of this study was to assess how clinicians at BMH-Memphis are using procalcitonin levels and to develop a procalcitonin protocol to guide the discontinuation of antibiotics.

Methodology:
A retrospective review of electronic medical records was conducted in all patients admitted to the intensive care unit (ICU) with a diagnosis of pneumonia from April 1, 2014 to January 21, 2016. The primary objective of this study was to determine if there was any difference in duration of antibiotics when procalcitonin levels were ordered. The secondary objectives included the following: time from first negative procalcitonin level to discontinuation of antibiotics, ICU length of stay, hospital length of stay, and all-cause mortality at 28 days.

Results:
A total of 470 patient charts were screened, 158 of which met inclusion criteria (80 in the procalcitonin group and 78 in the control group). There was no significant difference in the duration of antibiotics between the procalcitonin group and the control group (253 hours vs. 240 hours respectively, p=0.63) at BMH-Memphis. Additionally, there was no significant difference in ICU length of stay (240 hours vs.194 hours, p=0.08), hospital length of stay (394 hours vs. 345 hours, p=0.21), nor 28-day all-cause mortality (21.3% [17/80] vs. 24.3% [19/78], p=0.64).

Conclusions:
This study demonstrates that without a protocol to direct their use, there is little benefit to obtaining procalcitonin levels.

Presentation Objective:
Demonstrate how a protocol is necessary to effectively utilize procalcitonin levels.

Self-Assessment Question:
What are the benefits to using procalcitonin to guide the discontinuation of antibiotics?

Retrospective Review of Meropenem Utilization at a Pediatric Tertiary Facility

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Background/Purpose:
Meropenem is a broad-spectrum antimicrobial agent within the carbapenem family. Historically, resistance to meropenem has been relatively uncommon. However, recent studies suggest resistance to meropenem has become more widespread resulting in fewer options for treatment of complicated infections. One recent study pooled data from the antibiograms of 55 pediatric hospitals in the United States and found that only 88.5% of *Pseudomonas aeruginosa* isolates were susceptible to meropenem. Some studies have indicated that nearly 50% of antibiotic prescriptions are potentially inappropriate which may promote further resistance as well as increased cost of healthcare, increased morbidity, and increased mortality.

There are few new antibiotic drugs currently in development and appropriate prescribing is necessary to minimize the development of resistance to this class of broad-spectrum antibiotics. Antimicrobial stewardship programs can be effective in minimizing resistance. One study found a decrease in carbapenem resistance of *Pseudomonas aeruginosa* from 35% to 16% through implementation of an antimicrobial stewardship program.

This facility implemented a restriction on meropenem prescribing as a part of an antimicrobial stewardship program which requires prescribers to select an indication for carbapenem use. This study evaluates this process to determine the extent to which inappropriate meropenem usage has declined and to identify areas for improvement in the process.

Methodology:
A retrospective review will be conducted to compare prescribing from June 2012- December 2013 with prescribing from March 2014-September 2015. Data will be collected on the indication for use, cultures, days of therapy, dose, frequency, and presence of an infectious disease consult. 300 patients will be reviewed in this study to see a reduction in inappropriate prescribing from 30% to 15%.

Results:
In process

Conclusion:
In process.

Presentation Objective:
Understand the importance of antimicrobial stewardship and identify indications for appropriate use of meropenem.

Self-Assessment Question:
Which of the following is NOT an appropriate indication for meropenem usage?

a. Empiric treatment in a patient with a history of ESBL infections
b. Febrile neutropenia refractory to ceftazidime
c. Community acquired pneumonia
d. ESBL-producing *Klebsiella spp.*

Comprehensive Heart Failure Medication Management Provided by a Clinical Pharmacy Hospital to Home (H2H) Service

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Background: Heart failure (HF) affects 2.2-4.4% of the veteran population in the United States, and is associated with high rates of hospitalizations and often fragmented care. The Veterans Health Administration (VHA) heart failure readmission rate for all healthcare systems averages 19.4% within the first 30 days post-discharge. There are preventable and unpreventable factors contributing to HF readmissions, including disease progression, suboptimal medication management, patient non-adherence, and co-morbidities precipitating HF exacerbations. During the HF admission, many treatment goals exist that Clinical Pharmacy Specialists (CPS) can facilitate including stabilization of fluid balance with diuretics, titration of neurohormonal antagonists, providing patient and caregiver education regarding sodium and fluid restriction, developing self-management skillset, and providing post-discharge medication management, potentially reducing readmission rates.

Methodology: This is an IRB approved, prospective, quality improvement project conducted among veterans treated at the VA Tennessee Valley Healthcare System (TVHS) with a recent heart failure-related hospitalization or emergency department (ED)/urgent care visit from 6/2014-present. Patients managed by inpatient cardiovascular services and those who receive primary cardiovascular care from the Advanced Heart Failure Clinic or outside of TVHS were excluded from the study. Patients were enrolled by means of electronic-consultations placed by providers. E-consults consisted of an electronic pre-evaluation without patient level interaction and recommendations were directly communicated to the requesting provider. The e-consult generally recommended issuance of a pharmacy consult for inpatient care (face-to-face at bedside for multi-level intervention) and transitional care including cardiovascular interprofessional team clinic, telephone supportive care, and potentially walk-in appointments for the first month. The primary outcome is composite 30-day readmissions and all-cause ED visits for patients completing the program versus an unmatched sample of patients admitted during the same time frame.

Results: To be presented.

Conclusions: To be presented.

Presentation Objective: To assess the impact of comprehensive medication management provided by a Cardiology CPS Transitional Care Consult Service on patient access to cardiology specialty care and outcomes in patients with heart failure.

Self-Assessment Question: What interventions can pharmacists make to optimize heart failure management?

Comparison of pharmacist to physician Medicare wellness services

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The University of Mississippi Medical Center and the University of Mississippi School of Pharmacy

Background/Purpose: Annual Wellness Visits (AWV) are a benefit provided for Medicare beneficiaries to increase focus on patient wellness and preventative measures. In this study, a comparison was performed to determine if the quantity and types of pharmacist-performed AWV interventions and revenues generated were similar to that of a physician.

Methods: A report generated through the electronic health record was used to determine patients who have been billed for an AWV conducted by a pharmacist or a physician and the revenue generated from these visits.

Through electronic chart review, the primary investigator accessed notes written by the providers to quantify and categorize the number and types of referrals, health advice, laboratory tests, procedures, vaccinations, and screenings that took place or were recommended during each patient's AWV. Data were compared between those services provided by a pharmacist and a physician. Outcomes for referral appointments (whether or not the patient scheduled and/or attended) were also captured.

Data will be analyzed using a Fisher's exact test and a Student's t-test to determine differences between the groups for each intervention category.

Results: To date, 54 patient records have been evaluated, 17 were pharmacist encounters and 37 were physician encounters. Fifteen patients were seen for initial visits and 39 patients were seen for follow-up visits. The pharmacist performing these visits received an average reimbursement of $158 per patient and the physician received $96 per patient. During the visits completed by the pharmacist and physician, 16 referrals were made, 79 health advice recommendations were made, 141 labs were ordered, 18 procedures were ordered, and 25 vaccines were recommended.

Conclusions: Conclusions pending.

Presentation Objective: Compare and contrast outcomes of Medicare Wellness services provided by a pharmacist and a physician.

Self-Assessment Question: Which of the following is (are) required components of an Annual Medicare Wellness Visit?

Stress Ulcer Prophylaxis in the Pediatric Intensive Care Unit

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Kyle Mays, SSM Health Cardinal Glennon Children's Hospital, St. Louis MO

Background

Gastrointestinal bleeding due to stress ulceration is a significant complication for critically ill pediatric patients, leading to an increased incidence of morbidity. Adult data have shown that mucosal damage can occur in 75-100% of patients in the intensive care unit within the first 24 hours, while pediatric data suggest a prevalence of gastrointestinal bleeding ranging from 6-36%. Prophylactic measures include: neutralization of gastric acid and reduction of gastric acid secretion by use of proton pump inhibitors (PPI) or histamine receptor antagonists (H_2RA). Institutions with a pediatric intensive care unit have begun using stress ulcer prophylaxis as a result of strong data supporting its use within the adult population.

Purpose

There is an absence of strong data regarding stress ulcer prophylaxis for pediatric patients in the intensive care unit. Without clear criteria for initiation, a high percentage of patients are placed on stress ulcer prophylaxis when admitted to the unit. This study intends to set forth a protocol that defines when PICU patients should receive stress ulcer prophylaxis. After implementation of the protocol, the study will retrospectively determine compliance as well as cost savings for the hospital.

Methods

This study is a retrospective chart review of patients in the pediatric intensive care unit at SSM Health Cardinal Glennon Children's Hospital to determine compliance and cost savings with the implementation of a stress ulcer prophylaxis protocol in the PICU.

Results

Pending

Conclusion

Pending

Presentation Objectives

1. Examine the use of stress ulcer prophylaxis in all Pediatric Intensive Care Unit patients.

Self-Assessment Question

1. What is considered as a high risk factor for stress ulcer prophylaxis?
    A. NPO
    B. Hepatic failure
    C. Prolonged intubation (>48 hours)
    D. Spinal cord trauma
    E. Scheduled NSAID therapy

Evaluation of levetiracetam for early posttraumatic seizure prophylaxis in pediatric patients with traumatic brain injury

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Background/Purpose: Up to 39% of pediatric patients with traumatic brain injury experience early posttraumatic seizures. Phenytoin has been studied and shown to potentially reduce the incidence of early posttraumatic seizures in this population. Current guidelines recommend a consideration of phenytoin for prophylaxis, however the requirement of therapeutic monitoring, drug-drug interactions, and adverse effect profile are barriers to its usage. The purpose of this study is to evaluate the efficacy and safety of levetiracetam for prophylaxis of early posttraumatic seizures in pediatric patients with traumatic brain injury, while identifying current dosing practices.

Methodology: This study is a retrospective chart review that will include patients one to 17 years of age, who were admitted to the pediatric or neurosurgery intensive care unit with a diagnosis code for traumatic brain injury, hospitalized between January 2010 and December 2014. Extracted data will include patient demographics, hospital unit, Glasgow Coma Score and neurologic assessment on admission, vital signs on admission, type and mechanism of brain injury, occurrence of loss of consciousness, initial computed tomography results, occurrence of clinical or sub-clinical seizures, antiepileptic dosing regimen, serious treatment-related adverse effects, receipt of medications with antiepileptic properties, neurology consultation, interventions, herniation, complications, length of stay, and mortality. Neuroimaging and electroencephalogram data will be evaluated when available. The study protocol has been approved by the University of Tennessee Institutional Review Board.

Results: In process

Conclusions: In process

Presentation Objective: To evaluate the efficacy and safety of levetiracetam for prophylaxis of early posttraumatic seizures in pediatric patients with traumatic brain injury.

Self-Assessment Question: Which of the following is a disadvantage to using phenytoin for prophylaxis of early posttraumatic seizures in pediatric patients with traumatic brain injury?

a) A narrow therapeutic index
b) Many drug-drug interactions
c) An extensive adverse effect profile
d) All of the above

Hyperchloremia versus Non-hyperchloremia in Intracerebral Hemorrhage Patients Treated with Hypertonic Saline: A Pilot Study

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Memphis, TN

Background/Purpose: Hyperchloremia has been associated with acute kidney injury (AKI), metabolic acidosis, worsened morbidity and higher mortality in critically ill patients. While previous research has demonstrated an association between hypertonic saline (HTS) and hyperchloremia, limited data exists in neurocritical care patients. The purpose of this study is to elucidate the effects of hyperchloremia (chloride >110 mmol/L) on clinical outcomes in patients with intracerebral hemorrhage (ICH) treated with continuous infusion 3% HTS.

Methodology: We conducted a retrospective case-control study of patients with a diagnosis of ICH, intensive care unit (ICU) admission and treatment with continuous infusion 3% HTS for at least 12 hours. Exclusion criteria included creatinine clearance <15 ml/min or end-stage renal disease requiring hemodialysis, palliative care within 48 hours of admission, anticoagulant-induced ICH other than warfarin, warfarin-induced ICH if INR not reversed to ≤1.4 within 12 hours, and ICH diagnosis secondary to trauma, surgery, or hemorrhagic conversion of acute ischemic stroke. The primary objective was to determine the association of hyperchloremia with in-hospital mortality in patients with ICH. Secondary outcomes included hospital and ICU length of stay and incidence of AKI.

Results: A total of 189 patients were included (hyperchloremia n=157; non-hyperchloremia n=32). In a univariate analysis, in-hospital mortality was significantly higher in patients who developed hyperchloremia compared to patients who did not (33.1% vs 3.1%; $p<0.01$). Those with hyperchloremia had higher rates of AKI (31.8% vs 3.1%; $p<0.01$) and longer hospital and ICU lengths of stay (median: 12.4 and 6.6 days vs 8.0 and 4.0 days; $p<0.01$).

Conclusions: Our study observed significantly higher rates of mortality and AKI in patients who developed hyperchloremia after treatment with continuous infusion 3% HTS. Further analysis will include adjustment for confounding variables and identifying predictors of mortality to further support this relationship.

Presentation Objective: Elucidate the relationship between hyperchloremia versus non-hyperchloremia and mortality in patients with ICH treated with 3% HTS.

Self-assessment question: Is hyperchloremia compared to non-hyperchloremia associated with worse outcomes in patients with ICH treated with continuous infusion 3% HTS?

Oral Anticoagulant Safety and Efficacy in Patients with Atrial Fibrillation and End Stage Renal Disease

Author's names:
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Background:
The prevalence of atrial fibrillation (AF) is high in patients with end stage renal disease (ESRD) requiring chronic dialysis. Currently the treatment of choice for reducing thromboembolic risk in patients with AF is oral anticoagulation (OAC) with warfarin or newer oral anticoagulants; however, randomized trials have not included ESRD patients. Observational studies of warfarin in this patient population have shown conflicting results in stroke prevention and increased bleeding events. The purpose of this study is to characterize patients presenting with stroke or bleeding events in an effort to provide more information to clinicians as they are faced with risk vs benefit decision of anticoagulation in this patient population.

Methodology:
A retrospective chart review was conducted of patients with past medical history of AF and ESRD requiring dialysis admitted to Methodist Le Bonheur Healthcare hospitals with bleeding and/or stroke event. Included patients were divided into two groups based on the use of anticoagulants or not. Comparisons between the two groups were made based on CHADS2 scores for stroke and bleeding events, HAS-BLED scores for bleeding events, patient characteristics, 30-day readmission to MLH hospitals and inpatient mortality.

Results:
To date, 49 patients of 923 patients screened have been included in the study. Thirty patients (3 with stroke events, 28 with bleeding events) have been included in the OAC group and 19 patients (8 with stroke events, 12 with bleeding events) in the no OAC group. One patient in each group had both types of events on admission.

Conclusions:
Data collection is ongoing with subsequent analysis of CHADS2, HAS-BLED Score, and patient characteristics between the two groups.

Presentation Objective:
To characterize patients with AF and ESRD on dialysis presenting with stroke or bleeding events on and off OAC in terms of risks vs. benefits.

Self-Assessment Question:
Was the risk greater than the benefit for use of OAC in patients with AF and ESRD on dialysis in this study?

Quality Improvement: Creation of the Best Possible Home Medication List upon Admission

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Background/Purpose: Studies have shown that a pharmacist-led medication reconciliation process could prevent medication discrepancies and potential adverse drug events. Medication reconciliation is a requirement of the JCAHO standards, and is required upon hospital admission, transfers of care, and hospital discharge. The goal of this quality improvement project was to collect the attitudes and opinions of our staff regarding our current medication reconciliation process, and identify barriers to creating the best possible home medication list upon hospital admission. The results of this study will be utilized to help redevelop our current medication reconciliation process, and identify who best to perform the medication reconciliation. This will be achieved through a survey, and a documentation of the time and resources utilized to complete medication reconciliations using our current process.

Methodology: An electronic survey was constructed to receive multidisciplinary input regarding our current medication reconciliation process. This survey was administered to all personnel currently involved in the creation of the home medication list upon hospital admission. A concurrent data collection was performed to identify the time, resources utilized, and the number and type of interventions performed during the creation of the best possible home medication list upon admission by pharmacists and pharmacy students. The Institutional Review Board determined this study to be exempt from review. Descriptive statistics will be utilized to summarize data.

Results: Data collection is ongoing, and analysis will be complete by the time of the meeting.

Conclusions: The conclusion of this study is pending, and the results will be used to improve the quality of our current medication reconciliation process.

Presentation Objective: After completion of this presentation, the participants should be able to identify potential medication reconciliation barriers and recognize the time, effort, and resources that are involved in creating the best possible home medication list upon admission.

Self-Assessment Question: Which of the following are barriers involved in the medication reconciliation process?

- Time
- Discrepancies
- Language
- All of the above

Comparison of Parenteral Opioid Dosing in Sickle Cell Disease Patients with Vaso–Occlusive Crisis

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Background: Sickle cell disease (SCD) is a chronic disease characterized by multiple vaso–occlusive complications. Acute episodes of vaso–occlusive pain crisis (VOC) are the primary reason that patients seek medical care. Currently, there are no studies to determine an optimal pain control regimen, and SCD patients are often inadequately treated. The purpose of this study is to evaluate outcomes in patients with VOC based on pain management treatment modality.

Methodology: A retrospective review of admissions to Methodist LeBonheur Healthcare adult hospitals between 8/1/2010–8/31/2015 was conducted. Patients ≥18 years old with a primary diagnosis of VOC were included. Patients were excluded if they were pregnant or had no documented pain scores during the admission. The difference in average length of stay (LOS), treatment failure (TF), thirty–day readmission rates (TDR), and change in absolute pain scores (PS) was compared in patients treated with intermittent opioid injections (INT) versus patient controlled analgesia (PCA).

Results: To date, 218 patients have been screened with 121 included (INT group n=91, PCA group n=30). There were no significant differences in baseline characteristics between the groups. The average LOS in the INT group was 5.57±3.39 days compared to 6.27±3.92 days in the PCA group (p=0.36). TF occurred in 61% in the INT group compared to 7% in the PCA group (p=0.0001). TDR were similar with 23% INT group compared to 17% in PCA group (p=0.61). PS from baseline to 12 hours after admission were reduced by an average of 4.41±3.99 points in the INT group compared to 2.9 ±4.35 points in the PCA group (p=0.08).

Conclusions: Although the average LOS was similar between the two groups, TF was significantly higher within the INT group. There was no difference between TDR and absolute decrease in PS. Additional data is needed to determine optimal treatment modality for VOC.

Presentation Objective: Evaluate difference in patient outcomes for management of pain control in VOC

Self–Assessment Question: Does initial selection of pain control impact patient outcomes in VOC?

Outcomes of a Pharmacist-Led Transitional Care and Polypharmacy Clinic

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Background: At the Memphis Veterans Affairs Medical Center (VAMC), the majority of the patient population consists of elderly veterans, often with multiple comorbid disease states and complex medication regimens. Multiple studies have shown that medication errors are likely to occur during the transition between the inpatient and outpatient settings, placing patients at high risk for hospital readmission and adverse drug events. The Hospital Discharge and Polypharmacy Clinic was established for two reasons: 1) To assist with the transition of care between the inpatient and outpatient settings 2) To review the medication profiles of veterans on 8 or more chronic medications in need of medication regimen simplification, counseling, or optimization. The goal of this clinic is to assist in decreasing 30-day hospital readmission rates and Emergency Department (ED) visits, improve patient compliance, and reduce polypharmacy. The primary objective of this project is to assess the Hospital Discharge and Polypharmacy Clinic's effect on 30-day hospital readmission rates and ED visits.

Methodology: The study is a retrospective observational analysis on the ability of a pharmacist-led transitional care and polypharmacy clinic to prevent 30-day hospital readmissions and ED visits in a veteran population. Additionally, we will report baseline data of patients referred to clinic. Patients will be included in analysis if seen in the Hospital Discharge and Polypharmacy Clinic at the Memphis VAMC.

Results: pending

Conclusions: pending

Presentation Objective: Evaluate the impact of clinical pharmacist intervention on decreasing 30-day hospital readmission rates and ED visits.

Self-Assessment Question: What is the current rate of 30-day hospital readmissions and ED visits among patients seen in the Hospital Discharge and Polypharmacy Clinic?

Title: Retrospective analysis of cladribine use in acute myeloid leukemia induction treatment

Investigators: Nathan Seligson[1], Elizabeth Mills[1], Amy Evans[1], Athena Hobbs[1], Salil Goorha[1,2]
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Background/Purpose

Based on National Comprehensive Cancer Network (NCCN) guidelines, the standard of care for Acute Myeloid Leukemia (AML) induction includes seven days of continuous intravenous cytarabine (Ara-C) along with three doses of daunorubicin or idarubicin (DA or IA) as well as the optional addition of five doses of cladribine to the DA regimen (DAC). At BMH-M, induction treatment is most often IA or IA with the addition of cladribine (IAC). With minimal evidence to guide the utilization of IAC therapy, current practice is driven by provider preference more than objective data.

Methodology

Treatment naïve AML patients were identified through retrospective chart review; sixteen who received IA and five who received IAC as induction therapy at BMH-M. Exclusion criteria included age less than eighteen years and prior diagnosis of Chronic Myelogenous Leukemia. Patients were not excluded if they failed to complete treatment; however, patients did have to receive at least one dose of the respective regimen to be enrolled.

The primary endpoint of this study was complete remission as defined by NCCN guidelines. Secondary endpoints included 30 day survival, length of hospital stay, time to absolute neutrophil count (ANC) nadir, and time to ANC recovery. Changes in hepatic, cardiac, and renal function as well as adverse events reported were also assessed.

Results

Complete response was attained in 40% of patients treated with IA and 38% with IAC (P=0.92). Length of hospital stay and 30-survival were 30 days vs 23 days (P=0.08) and 81% vs. 80% (P=0.95) respectively. Matched data analysis pending.

Conclusions

Preliminary data suggests no difference in primary outcome between IA and IAC groups. Further conclusions pending data analysis.

Presentation Objective

Compare safety and efficacy of AML induction treatment regimens.

Self-Assessment Question

Which of the following induction regimens carries a category 1 recommendation for use in patients <60 years of age by the NCCN?

Title: Implementation of a Pharmacist-Driven diabetic ketoacidosis (DKA) Consult Service

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Background/Purpose:

Rates of hospitalizations for primary diagnosis of diabetic ketoacidosis (DKA) in the United States are increasing. DKA is the cause of 50% of all deaths in patients with diabetes mellitus who are younger than 24 years of age. There is a mortality rate of greater than 5% in elderly patients and patients with concomitant life-threatening illnesses who present in DKA. Timing is essential in the management of this disease state, but can be difficult to coordinate with the various demands of patients in an ICU. Therefore, it was requested by the ICU Medical Director that the Clinical Pharmacy Department offer a DKA management consult service. This service would provide twenty-four hour support to the nursing staff and reduce or eliminate the need for physician verbal orders. The purpose of this study is to determine if continuity of care by including pharmacists in the treatment of patients with DKA would improve outcomes.

Methodology:

Between November 28, 2015 and January 31, 2016 the clinical pharmacy department provided a DKA management consult service. This included initiating and managing the continuous insulin infusion, fluids and electrolyte replacement per protocol. This protocol was reviewed and approved by the medical staff. Once the Clinical Pharmacist determined the patient had met criteria for DKA resolution, the transition to subcutaneous insulin and a low carbohydrate diet was initiated.

The baseline patient population will include all non-pregnant patients 18 years of age or older admitted to the ICU or CCU at BHMC-NLR with an active diagnosis of DKA between the months of November 2014 and January 2015.

Exemption from IRB review has been granted.

Results: pending

Conclusions: pending

Presentation Objective: Evaluate the clinical impact of a pharmacist-driven DKA treatment protocol consult service.

Self-Assessment Question: True or False: The involvement of a BHMC-NLR Clinical Pharmacist improved care for patients being treated for DKA by decreasing total hospital length of stay, and/or ICU/CCU length of stay.

Impact of a pharmacist-led teleinsulin program

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University of Mississippi Medical Center, Jackson, Mississippi

Background/Purpose: Diabetes is a problem that continues to grow in the United States. There are an estimated 29.1 million people or 9.3% of the population that has some form of diabetes mellitus. Only 56% of patients from 2003-2006 met the American Diabetes Association (ADA) goal of A1c < 7%. Telemedicine is a relatively new concept being used to treat patients with diabetes. At the University of Mississippi Medical Center, there is a pharmacist led "teleinsulin" service providing management of blood glucose by adjusting insulin through telephone based on self-reported blood glucose. The purpose of this study is to examine whether a pharmacist-led teleinsulin program has an impact on hemoglobin A1c.

Methodology: An observational retrospective chart review was conducted. All patients who participated in the teleinsulin program and meet inclusion criteria are included in this study. Inclusion criteria include currently or previously enrolled in the teleinsulin program, ≥ 1 hemoglobin A1c drawn after enrollment, contact made with the patient ≤ 3 months before hemoglobin A1c was drawn, and number of contacts with the patient ≥ 2 times. Data was collected from the patient's electronic medical record. Diabetes medications, insulin dosages, and hemoglobin A1c will be compared from enrollment in the program to completion or current status. Continuous data will be analyzed using t-test or regression analysis. Additional descriptive statistics will be used to elucidate the existence of trends. The primary outcome will be reduction in hemoglobin A1c.

Results: To be presented

Conclusions: To be presented

Presentation Objective: Describe the impact a pharmacist-led telemedicine program managing insulin has on hemoglobin A1c.

Self-Assessment Question: Which of the following is an example of telemedicine?

A. Emailing a patient to communicate blood glucose values and adjust insulin
B. Collecting blood pressures which are sent electronically to a pharmacist and antihypertensive regimen is adjusted.
C. A patient has a physician appointment via FaceTime.
D. All of the above

Implementation of a Pharmacy Driven Procalcitonin Algorithm in the Intensive Care Unit

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North Little Rock, Arkansas

Background/Purpose: Antimicrobial resistance has emerged as a major factor affecting patient outcomes and overall resources in the hospital. The increase in resistance can lead to higher mortality, longer hospital stays, and increased hospital cost. Antimicrobial overuse and misuse has been shown to be a contributing factor to this increase. Estimates have shown that up to 50% of antimicrobial use in the inpatient setting is either unneeded or inappropriate.

Procalcitonin (PCT) is a biomarker that can be utilized in an antimicrobial infection to track the response to therapy. It has been recently used by researchers and health care professionals to determine the initiation of antimicrobial therapy, the appropriateness of antimicrobial therapy, and the proper length of treatment. PCT has a high specificity for bacterial and fungal infections and has shown to have a strong correlation to the severity of the infection, with limits. This study will evaluate the effectiveness of monitoring PCT levels in intensive care unit (ICU) patients who have been diagnosed with respiratory tract infections (RTIs), sepsis, or septic shock under willing hospitalists and pulmonologists.

Methodology: A retrospective chart review was conducted to collect baseline data. Baseline population included all patients diagnosed with the above infections in the ICU from November 2014 through January 2015. During the months of November 2015 through January 2016, a PCT algorithm created based on public literature was applied to an intervention group in the ICU. The patient's levels were tracked throughout their hospital stay and an intervention was made with the willing physician when the criteria was met to stop the antimicrobial therapy according to the algorithm.

Results: Pending

Conclusion: Pending

Presentation Objective: Evaluate the impact of introducing serial PCT levels on antimicrobial exposure in ICU patients with RTIs and sepsis.

Self-Assessment Question: True or False: Procalcitonin can effectively decrease the total duration of antimicrobial therapy.

Impact of a respiratory therapist driven aerosolized bronchodilator protocol

Whitney Rogers, Wesly Pierce, John Cleary
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Background/Purpose: Aerosolized bronchodilators are utilized frequently within the intensive care unit in patients without reversible airway disease. Recent evidence suggests that use of inhaled beta agonists may be harmful, specifically in patients with acute lung injury, and may be associated with tachycardia, atrial and ventricular tachyarrhythmias, and metabolic derangements, including hypokalemia. Also, there is a lack of data to support the widespread use of aerosolized bronchodilators in patients without reversible airway disease. The purpose of this study is to determine if utilization of a respiratory therapist driven protocol would reduce the number of inappropriately prescribed aerosolized bronchodilators.

Methodology: A pre and post-implementation retrospective chart review was performed for patients admitted to the medical/surgical intensive care unit. The pre-implementation retrospective chart review was performed to determine the extent of inappropriate aerosolized bronchodilator utilization as well as to determine a basis for the clinical and financial impacts associated with implementation of the protocol. The post-implementation retrospective chart review was completed to determine if the number of inappropriately prescribed aerosolized bronchodilators decreased through utilization of the respiratory therapist driven protocol and the clinical and financial impact the protocol had on patient care.

Results: Pending.

Conclusions: Pending.

Presentation Objective: Examine the impact of a respiratory therapist driven protocol to reduce the number of inappropriately prescribed aerosolized bronchodilators.

Self-Assessment Question: True/False Implementation of a respiratory therapist driven protocol significantly reduced the number of inappropriately prescribed aerosolized bronchodilators within a medical/surgical intensive care unit.

Assessing the Impact of Antimicrobial Stewardship Interventions Identified by Clinical Pharmacists in a Rural Hospital Using a Data Mining Surveillance System

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Background/Purpose:
Antimicrobial-resistant infections are a growing concern nationwide. In the near future, it is anticipated that the Centers for Medicare and Medicaid will execute federal regulations for hospitals, long-term care facilities, nursing homes, and critical access hospitals to develop and implement antimicrobial stewardship programs based on best practices. Both pharmacists and data mining tools play a vital role in optimizing antimicrobial use. Clinical pharmacists began focusing on antimicrobial stewardship interventions at Unity Health – White County Medical Center in April of 2015. Interventions were identified by de-escalation and type mismatch alerts created using data mining surveillance software. The purpose of this study is to assess the impact of clinical pharmacists' antimicrobial stewardship interventions identified using data mining software in a 438 bed, rural hospital.

Methodology:
De-escalation and type mismatch, the two alert types involving the most time-spent, were identified and analyzed. A seven-month period will be compared between April 7, 2014 to November 3, 2014 and April 7, 2015 to November 3, 2015 to identify the impact of clinical pharmacists on antimicrobial stewardship interventions. Clinical and economic outcomes including average length of stay, mortality rates, readmission rates, *Clostridium difficile* rates, and average pharmacy cost will be compared between groups.

Results: Pending

Conclusions: Pending

Presentation Objective: To assess the value of antimicrobial stewardship interventions identified using data mining software by clinical pharmacists in a small, rural hospital.

Self-Assessment Question: Does clinical pharmacist's use of data mining software improve clinical and economic antimicrobial stewardship outcomes in a small, rural hospital?

Evaluation of Phenobarbital Use in Patients with Severe Alcohol Withdrawal

April Ingason, Jodi Taylor, Ashley Buckley
Jackson- Madison County General Hospital
Jackson, Tennessee

Background/Purpose: Alcohol abuse disorder affects around 20% of all people who use alcohol. Many times alcohol withdrawal symptoms are not recognized in a timely manner in which to initiate the appropriate therapy. The Clinical Institute Withdrawal Assessment Scale (CIWA-Ar) is a validated, symptom-driven scoring system used to help identify patients suffering from alcohol withdrawal. The CIWA-Ar scale is used to classify the severity of the withdrawal to be able to provide appropriate therapy for the patient. Studies have shown that phenobarbital, when used in combination with a benzodiazepine-based regimen to treat severe alcohol withdrawal, can decrease time to autonomic stability, length of therapy, and days on mechanical ventilation without an increase in adverse events. Our study aims to implement an alcohol withdrawal protocol using a phenobarbital-benzodiazepine based regimen for patients with severe alcohol withdrawal and compare outcomes with patients receiving only benzodiazepine therapy.

Methodology: Patients were evaluated for inclusion into the study if admitted to the ICU January 1, 2014 through December 31, 2014 for the retrospective group, and January 1, 2016 through February 29, 2016 for the prospective group. All patients included into the study were classified as having severe alcohol withdrawal by the CIWA-Ar score. Medical record review was used to collect baseline demographic data and lab values, length of ICU stay, vital signs, CIWA- Ar scores, and inpatient medications. Data was collected for up to 5 days after ICU admission. The primary outcome was percent of time patients were autonomically stable, defined as heart rate less than 100 beats per minute. Secondary outcomes included mean benzodiazepine and phenobarbital dose, length of therapy, length of ICU stay, and days on mechanical ventilation.

Results: Pending

Conclusions: Pending

Presentation Objective: To evaluate outcomes associated with the use of a phenobarbital-based regimen in patients with severe alcohol withdrawal compared to patients treated with only benzodiazepine therapy.

Self-Assessment Question: Does a phenobarbital-based regimen lead to improved outcomes in severe alcohol withdrawal as opposed to benzodiazepine only therapy?

Title:
Effects of liposomal bupivacaine for periarticular pain control post total knee arthroplasty: a retrospective cohort study.

Author Information:
Brandon Green, Justin Piker, Liz Underwood
Unity Health - White County Medical Center (WCMC)
Searcy, Arkansas

Background/Purpose:
Appropriate postoperative pain control promotes healing, faster patient mobilization, shorter hospital stay, and decreased complications associated with total knee arthroplasty (TKA). Current practice guidelines recommend a multimodal analgesia approach utilizing different mechanisms of action to reduce adverse effects and opioid usage. Multimodal analgesia approaches include the use of opioids, non-opioids, and periarticular injections. Current literature is inconclusive regarding liposomal bupivacaine in periarticular injections. Liposomal bupivacaine was added to the Unity Health – WCMC formulary in February 2015 for use limited to orthopedic surgeons in TKA. The goal of this study is to compare pain control between patients undergoing TKA with traditional periarticular methods versus periarticular liposomal bupivacaine.

Methodology:
Outcomes were compared for 88 patients who underwent TKA with traditional periarticular injections from September 2, 2014 to April 20, 2015 and 87 patients who underwent TKA with periarticular liposomal bupivacaine from April 21, 2015 to October 21, 2015. Data for all patients was obtained from the electronic medical record. Primary outcomes included total opioid use post-TKA, average pain score during the first 24 hours post-TKA, final pain score before discharge, and hospital length of stay.

Results: The average amount of IV morphine equivalents administered post-TKA in the traditional versus liposomal bupivacaine groups was 54.16±41 mg versus 23.19±23 mg, respectively. The average pain score during the first 24 hours post-TKA was 2.49±2.27 versus 2.58±2.22. The average final pain score before discharge was 2.55±2.91 versus 2.74±2.87. The average hospital length of stay was 3.3±1.6 days versus 2.6±0.7 days.

Conclusions: Patients who received liposomal bupivacaine for periarticular pain control post-TKA had decreased opioid usage and decreased length of stay compared to traditional periarticular methods.

Presentation Objective: To review and evaluate the use of liposomal bupivacaine for periarticular pain control post-TKA.

Self-Assessment Question: What are the advantages of liposomal bupivacaine for periarticular pain control post-TKA?

EVALUATION OF KETOROLAC SAFETY AND EFFICACY IN POST-CORONARY ARTERY BYPASS GRAFTING (CABG) PATIENTS

Courtney Guinn, Dylan Wilson, Brad Spencer

Jackson-Madison County General Hospital

Jackson, Tennessee

Background/Purpose: As a result of two landmark studies that evaluated the safety of the cyclooxygenase-2 (COX-2) inhibitors parecoxib and valdecoxib after cardiac surgery, the Food and Drug Administration issued a boxed warning for all NSAIDs, including ketorolac (Toradol®). The boxed warning states the use of NSAIDs is contraindicated in patients for postoperative pain in the setting of coronary artery bypass graft (CABG) surgery due to an increased risk of myocardial infarction and stroke. Despite the boxed warning and contraindication, this drug is utilized in this setting. The purpose of this study was to determine the safety and efficacy of the use of ketorolac for pain control in patients who underwent a recent CABG.

Methodology: Patients were retrospectively identified based on the type of surgery the patient received utilizing the Society of Thoracic Surgeons Database (STS database). Patients were included if age 18 years or older and underwent a CABG or CABG plus valve surgery during the study period. The primary endpoint of this study was a composite of safety outcomes which are reported to the database including: acute kidney injury, elevation in troponin levels, cerebrovascular accident or transient ischemic attack, myocardial infarction, infection, and bleeding. Secondary endpoints included inpatient mortality, 30-day readmissions, length of stay post-operatively, atrial fibrillation incidence, and opioid usage.

Results: Pending

Conclusion: Pending

Presentation Objective: Determine the safety and efficacy of the use of ketorolac for pain control in patients who underwent a recent CABG.

Self-Assessment Question: NSAIDs have been associated with which of the following:

a. Over sedation of the patient
b. Suboptimal pain control
c. Increased risk of myocardial infarction and stroke
d. Hepatotoxicity

Title: Evaluation of a new formulary voriconazole dosing strategy in a pediatric population

Authors: Amy Pasternak, Cyrine E. Haidar, Donald K. Baker, James M. Hoffman, Mary V. Relling, Kristine R. Crews. St. Jude Children's Research Hospital, Memphis, TN

Background: Voriconazole clearance is highly variable in pediatric patients, and is influenced by CYP2C19 phenotype. Historically, 39% of our patients had initial therapeutic voriconazole trough plasma concentrations. In July 2015 we changed our dosing strategy to increase the voriconazole starting dose, based on pharmacokinetic modeling. The dosing recommendations differ by patient age (< 12 or ≥ 12 years) and voriconazole formulation. We also implemented CYP2C19 phenotype-guided dosing recommendations for patients who have a preemptive CYP2C19 phenotype, with adjusted doses for ultra-rapid and poor metabolizers.

Methodology: This chart review was conducted to determine the effectiveness of the new formulary voriconazole dose in obtaining therapeutic voriconazole trough plasma concentrations (range 1-6 mcg/mL). Patients were included if they received voriconazole for at least five days of therapy and did not have voriconazole trough concentrations in the previous 30 days. Patient age, service, CYP2C19 phenotype, concomitant CYP2C19 inhibitors, weight, serum creatinine, liver function panel, voriconazole dose, voriconazole trough, and symptoms of toxicity were collected. We assessed the percent of patients within therapeutic range and the incidence of reported voriconazole toxicity when receiving the new formulary voriconazole dose.

Results: To date, 59 patients have received the new formulary voriconazole dose and 32 (54%) have voriconazole trough concentrations. Fifty-two percent of patients had therapeutic voriconazole trough concentrations, 22% had subtherapeutic and 26% had supratherapeutic concentrations. Fourteen patients had pre-emptive CYP2C19 phenotype and received phenotype-guided voriconazole dosing. One ultra-rapid and one poor metabolizer were included and each had an initial therapeutic trough concentration. Six patients (10%) had reported symptoms of voriconazole toxicity, 83% of which were visual disturbances or hallucinations.

Conclusions: In this preliminary data set, the new voriconazole dosing strategy resulted in initial therapeutic trough concentrations for two patients with high-risk CYP2C19 phenotypes.

Presentation Objective: Describe the association between CYP2C19 phenotype and voriconazole trough concentrations.

Self-Assessment Question:

1. A patient with a CYP2C19 ultra-rapid metabolizer phenotype is at an increased likelihood for a _____ voriconazole trough concentration:
    a. Subtherapeutic
    b. Supratherapeutic
    c. Therapeutic

ANALYZING AND UNIVERSALIZING THE COMPONENTS OF A CLINICAL DECISION SUPPORT PROJECT PRIORITIZATION TOOL

Gabriel Guerra; Connie Saltsman, Jennifer Harris, Risa Rahm, William Cooper, Jane Englebright
Hospital Corporation of America (HCA) & University of Tennessee College of Pharmacy
Nashville, Tennessee

Background/Purpose: The pharmacy informatics team at the Hospital Corporation of America developed a prioritization tool entitled “Scoring Taxonomy Applied to Clinical Decision Support” (STAt-CDS) to objectively determine which CDS project be developed to be most impactful on patient care. After being created with Microsoft Excel© and disseminated for testing, usability and versioning issues prevented some end-users from successfully accessing the tool. This prompted the need to analyze and reformat the tool to be truly useful in CDS prioritization. The primary and secondary endpoints are to analyze the current components of the tool and recreate it in a more usable format.

Methodology: The project will be conducted by performing a fault tree analysis (FTA) to analyze the current components for completeness and identify missing items from within the tool. The results will be presented and analyzed with the core pharmacy informatics team. The updated tool will then be presented to expert clinical pharmacists and pharmacy informaticists for finalization of the components. Further investigation and testing will be conducted to identify the best software application that allows both an intuitive user interface and is accessible to all users without risks of versioning. After presenting the finalized tool to the pharmacy informatics team, it will then be disseminated to all enterprise informaticists with the goal of expanding as a public tool for other healthcare informaticists.

Results: To be presented.

Conclusions: To be presented.

Presentation Objective: To discuss the complexity surrounding the prioritization of successful clinical decision support tools.

Self-Assessment Question: When prioritizing clinical decision support project developments, which method is more efficient and easier to complete?

Impact of Pharmacy Intervention on Admission Medication Reconciliation

Megan Hicks, Marilyn Lee, Kay Ryan
Regional One Health – Memphis, TN

Background:
Because patients are most at risk for medication errors during transitions in care, the Joint Commission (TJC) implemented requirements to develop a process for obtaining a complete list of patients' home medications upon admission. This is a 2016 National Patient Safety Goal (NPSG). TJC recommends reconciling medications within 24 hours of admission. TJC also requires organizations to reconcile medication lists at all interfaces of care and involve patients, physicians, nursing and pharmacists in the process. Additionally, the Center for Medicare and Medicaid Services (CMS) requires that medication reconciliation is performed by eligible providers in at least 50% of transitions in care in which they are involved. Recently, Regional One Health has sought to improve this process for admitted patients.

Methodology:
A medication reconciliation baseline audit was conducted in February 2015. Accuracy and completion of home medication lists were found to be approximately 23% and 25%, respectively. The study identified inaccuracy as the primary reason providers were not completing medication reconciliation with 24 hours of admission. In August 2015, a pharmacy-led pilot initiative utilizing pharmacists, technicians and students was launched. The purpose of this study was to assess the impact of the pharmacy-led intervention. Effectiveness will be gauged by number of errors per patient medication list and rate of on-time completion of admission medication reconciliation. All patients admitted to Regional One Health will be identified via the Soarian Clinicals Service Provider Workspace. Program patients will have medication lists assessed by student pharmacists using a standardized template.

Results: To date, 244 patients have been identified. Results are pending.

Conclusions: pending

Presentation Objective: Assess efficacy of pharmacy-led home medication collection on increasing accuracy and completion of admission medication reconciliation within 24 hours of admission.

Self-Assessment Question: What was the most common type of error detected in home medication lists after initiation of the pharmacy-led pilot for home medication collection?

Title: Guardian Knowledge and Perception of Human Papillomavirus Vaccine at the Community Pharmacy

Authors':

Temitayo Banjo; Catherine Black, Karla Foster, Stephanie Kile: Walgreen Co. Jackson, Mississippi; Jake Galdo, Peter Hughes: Samford University. Birmingham, Alabama

Background
According to the Centers of Disease Control (CDC), Human Papillomavirus Virus (HPV) is the most common sexually transmitted infection. [1] HPV is most prevalent in cervical cancer, which is the second most common cancer among women worldwide. [1] Each year, there are about 21,000 HPV-related cancers nationwide that could be prevented by getting the HPV vaccine.[1] According to the 2014 National Immunization Survey (NIS)–Teen, about 46% of 13 - 17 year old girls have started an HPV vaccine series in Mississippi.[1] However, only about 25% received all three doses. In addition, about 26% of 13-17 year old boys have received one dose of the HPV vaccine and only 16% have received the second dose of the HPV vaccine in Mississippi.[1] Factors that may contribute to the lack of HPV vaccinations include demographics, socioeconomic status, geographic location, knowledge and guardian perception [2,3,4]

Methodology
This is a cross- sectional survey-based study that will assess guardians' knowledge and perception of the HPV vaccine. Inclusion criteria included guardians aged 18-60 of a child aged 9 – 26 who present to the community pharmacy in Jackson, Mississippi and Madison, Mississippi to receive vaccinations. Exclusion criteria included participants that were not guardians or guardians not between ages 18 – 60 providing care for a child aged 9 – 26. Participants who consented to participate in the study were asked to complete an anonymous de-identified survey administered by one of the trained pharmacist. The study survey was adapted from previous literature. [2]

Results
Final results and conclusions pending completion.

Conclusions
These data suggest that the general population is informed of the HPV vaccine. However, due to the limited number of African American participants, the level of their awareness of the HPV vaccine, as a population, is yet to be evaluated.

Presentation Objective
To address guardians' knowledge and perception of the current CDC HPV vaccination recommendation

Self-Assessment Question
Raising the awareness of the benefits of the HPV vaccine can potentially reduce cervical cancer prevalence among women.

True or False

Coded Adverse Drug Events after Enterprise Implementation of Safety Initiatives Including a Real-Time Clinical Surveillance Tool for Pharmacists

Ruby Chenette Burks, HCA/University of Tennessee, Nashville, Tennessee
Joan Kramer; Ty Elders; Mandelin Cooper; Risa Rahm; Hayley Burgess
HCA, Nashville, Tennessee

Background/Purpose: Over a million patients are harmed each year by medications, and pharmacist intervention using Real-Time Clinical Surveillance Tools (RTCST) has been suggested as one component of the solution. Hospital Corporation of America has implemented a portfolio of initiatives surrounding medication safety, including policies, clinical decision support, and a RTCST. The RTCST has been implemented across the enterprise to alert pharmacists to intervene and prevent adverse drug events (ADEs). This tool pulls data from patients' electronic medical records and alerts pharmacists once pre-defined criteria are met. Then, it provides suggestions for intervention. The purpose of this study was to determine the association of a RTCST for pharmacists with coded ADEs.

Methodology: This retrospective, quasi-experimental study of coded ADEs 6 months before and after RTCST implementation included 70 hospitals within a nationwide healthcare system. Coded ADEs of interest for the study were prioritized based on the frequency and severity of events. The primary endpoint of the study was the number of coded ADEs pre and post RTCST implementation. Secondary endpoints of interest included association between RTCST clinical pharmacist triggers and coded ADEs post RTCST implementation. The dataset contained de-identified patient demographics, ICD-9 code documentation of ADEs, drug administration data, alert tracking from the RTCST, and description of the alert. The data analysis was performed using descriptive and inferential statistics. The study received approval from the University of Tennessee Health Science Center Institutional Review Board.

Results: (Preliminary)
During the pre-implementation phase, 10,701 coded ADEs were identified, compared with 5,942 in the post-implementation phase. After a rate per 1,000 patient days was calculated, a reduction of 47.6% in coded ADEs was observed. Additional results will be presented in full.

Conclusions: In progress

Presentation Objective: To determine the association of a RTCST for pharmacists with coded ADEs

Self-Assessment Question: Prevention of ADEs can be observed with the implementation of the following:

a) A real-time clinical surveillance tool
b) A culture of reporting
c) Clinical decision support
d) All of the above

EVALUATION OF URINE CULTURES OBTAINED FROM OUTPATIENTS SEEN IN THE EMERGERNCY DEPARTMENT

Ryan O'Neal, Mary Yates, Stephanie Bailey, Tara Parish, Didi Owolabi, Chris Hilty
Methodist LeBonheur Healthcare
Memphis, TN

Background/Purpose: Urinary tract infections (UTIs) are one of the most common reasons for infection and result in approximately 8.6 million ambulatory care visits each year, with the most common causative organism being *Escherichia coli*. The Infectious Disease Society of America (IDSA) recommends using local antibiograms to guide antibiotic selection and suggests nitrofurantoin, trimethoprim-sulfamethoxazole (TMP-SMX), or fosfomycin as empiric therapy for uncomplicated cystitis and pyelonephritis and fluoroquinolones as second-line for therapy. The purpose of this study is to determine if patients are adequately treated for UTIs in the system's five adult hospital emergency departments

Methodology: A retrospective chart review of antibiotics, urine cultures, and organism sensitivities was performed. Patients were included who received antibiotics for treatment of urinary tract infections in the ED and had urine cultures obtained. The primary objective was to determine if empiric antibiotic selection is adequate for patients not requiring hospitalization. Secondary objectives were to compare re-presentation rates for patients inadequately and adequately treated for their UTI and to describe the number of positive and negative urine cultures.

Results: Five thousand patients have been screened to include 386 patients. One hundred and thirty-three patients have been reviewed. Fifty-eight patients have been included for the primary objective. Thirty-six (62%) were treated adequately with antibiotics and 22 (38%) were treated inadequately. The most common identified organism has been *E.coli.* The most common prescribed antibiotic in both groups is trimethoprim-sulfamethoxazole, with 25 (69%) in the adequately treated group and 15 (68%) in the inadequately treated group. *E. coli* has shown resistance to ciprofloxacin (74%) and TMP-SMX (69%) respectively. Urine cultures were negative 18 times compared to the 58 finalized cultures.

Conclusions: Final data analysis and conclusions to be presented.

Presentation Objective: Determine the percentage of patients adequately treated for urinary tract infections (UTI) at adult hospital emergency departments.

Self-assessment question: Should Sulfamethoxazole-Trimethoprim be used as primary treatment of urinary tract infections in the emergency department?

Thursday, April 21
Session II

Room 123

3:40 **Gulum, Alev – PGY2 Ambulatory Care**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
EVALUATION OF AMBULATORY CARE SENSITIVE HOSPITALIZATIONS UTILIZING THE VETERANS AFFAIRS (VA) STRATEGIC ANALYTICS FOR IMPROVEMENT AND LEARNING (SAIL) MODEL-PART I

4:00 **Reeves, Hunter – PGY1 Pharmacy Practice**
North Mississippi Medical Center – Tupelo, MS
COMPARISON OF PATIENT SELF-TESTING (PST) VERSUS ANTICOAGULATION CLINIC-BASED INR TESTING

4:20 **Warstler, Amanda – PGY2 Psychiatry**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
EVALUATION OF AN INTERPROFESSIONAL TELEMENTAL HEALTH PROGRAM ON PATIENT OUTCOMES

4:40 **Clark, Katie – PGY1 Acute Care**
North Mississippi Medical Center – Tupelo, MS
ECONOMIC IMPACT OF PROCALCITONIN GUIDED ANTIBIOTIC TREATMENT IN PATIENTS WITH SEPSIS SECONDARY TO PNEUMONIA

5:00 **Cooke, Emily – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
EVALUATION OF HEALTH LITERACY AND KNOWLEDGE OF FEBRILE NEUTROPENIA IN PARENTS AND CAREGIVERS OF PEDIATRIC HEMATOLOGY AND ONCOLOGY PATIENTS

Room 215

3:40 **Gross, Brittany – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
RETROSPECTIVE REVIEW OF PEDIATRIC HYPERTENSION AND MANAGEMENT IN THE MISSISSIPPI MEDICAID AND CHILDREN'S HEALTH INSURANCE PROGRAM (CHIP) POPULATION

4:00 **Owens, Ryan – PGY2 Internal Medicine**
Methodist University Hospital – Memphis, TN
HEART RATE CONTROL AS A MARKER OF BETA-BLOCKER EFFICACY IN HOSPITALIZED HEART FAILURE PATIENTS

4:20 **Peeler, Kayla – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
MISSISSIPPI KIDNEY FOUNDATION'S RENAL EVALUATION AND ASSESSMENT PROGRAM (REAP): ASSESSMENT OF RESOURCE MANAGEMENT AND TARGETED PARTICIPANT FOLLOW UP

4:40 **Roe, Neil – PGY2 Critical Care**
Methodist University Hospital – Memphis, TN
IMPACT OF FLUID BALANCE ON CLINICAL OUTCOMES IN PATIENTS WITH INTRACEREBRAL HEMORRHAGE: A PILOT STUDY

5:00 **Kirby, Justin** - **PGY1 Community Pharmacy**
Lipscomb University College of Pharmacy – Nashville, TN
THE IMPLEMENTATION OF AN ACCREDITED DIABETES SELF-MANAGEMENT EDUCATION PROGRAM IN A COMMUNITY PHARMACY

Thursday, April 21
Session II

Room 219

3:40 **Rehs, Lisa – PGY1 Pharmacy Practice**
Maury Regional Medical Center – Columbia, TN
RETROSPECTIVE ANALYSIS OF ANTIBIOTIC PRESCRIBING IN THE EMERGENCY DEPARTMENT, IDENTIFYING OPPORTUNITIES FOR PHARMACY INVOLVEMENT

4:00 **Goodman, Maggie – PGY1 Pharmacy Practice**
Saint Thomas Rutherford Hospital – Murfreesboro, TN
TRANSITIONS OF CARE: REDUCING READMISSION RATES IN PATIENTS WITH COPD

4:20 **Slusher, Lindsey – PGY1 Pharmacy Practice**
Maury Regional Medical Center – Columbia, TN
RETROSPECTIVE ANALYSIS OF EXTENDED-INFUSION PIPERACILLIN-TAZOBACTAM IN EXTREMELY OBESE PATIENTS IN A COMMUNITY HOSPITAL

4:40 **Brakefield, Nick - PGY1 Pharmacy Practice**
Saint Thomas Rutherford Hospital – Murfreesboro, TN
COMPARISON OF THE DEFINED DAILY DOSE (DDD) AND DAYS OF THERAPY (DOT) AS METRICS FOR ANTIBIOTIC UTILIZATION IN A THREE HOSPITAL SYSTEM

5:00 **Lindsay, Dylan – PGY1 Community Pharmacy**
University of Mississippi School of Pharmacy – Oxford, MS
INCREASING MISSISSIPPI PHARMACIST AWARENESS ABOUT CESSATION (IMPAC): A STATEWIDE NEEDS ASSESSMENT FOR COMMUNITY PHARMACIST TOBACCO CESSATION SERVICES

Room 308

3:40 **Watson, Amber – PGY1 Clinical Toxicology and Drug Information**
Aegis Sciences Corporation/Belmont University College of Pharmacy – Nashville, TN
IDENTIFYING LEVORPHANOL INGESTION USING URINE MARKERS IN CHRONIC PAIN PATIENTS

4:00 **Volgas, Sarah – PGY1 Pharmacy Practice**
Baptist Health Medical Center - Little Rock
IMPACT OF PHARMACY-LED EDUCATION AND INTERVENTION IN MANAGEMENT OF ICU DELIRIUM

4:20 **Claussen, Kate – PGY1 Clinical Toxicology and Drug Information**
Aegis Sciences Corporation/Belmont University College of Pharmacy – Nashville, TN
THE PRESENCE OF PARENT COCAINE IN THE ABSENCE OF BENZOYLECGONINE IN URINE SPECIMENS OF PAIN MANAGEMENT AND ADDICTION TREATMENT PATIENTS.

4:40 **Chandler, Bethany – PGY1 Pharmacy Practice**
Baptist Health Medical Center - Little Rock
EVALUATION OF REIMBURSEMENT POTENTIAL FOR INPATIENT PHARMACIST SERVICES

5:00 **Clark, Dillon – PGY1 Pharmacy Practice**
Baptist Memorial Hospital - North Mississippi
ANALYSIS OF ANTIBIOTIC SELECTION FOR URINARY TRACT INFECTIONS IN A COMMUNITY HOSPITAL

Thursday, April 21
Session II

Room 315

3:40 **Saed, Areeman – PGY1 Pharmacy Practice**
Cookeville Regional Medical Center – Cookeville, TN
PHARMACIST-DRIVEN ANTIMICROBIAL STEWARDSHIP IMPLEMENTATION IN A COMMUNITY HOSPITAL

4:00 **Marthone, Charita – PGY1 Pharmacy Practice**
East Jefferson General Hospital – Metairie, LA
BLOOD GLUCOSE CONTROL IN TYPE 2 DIABETES MELLITUS (T2DM) ADULT PATIENTS POST-CARDIAC SURGERY

4:20 **Wright, Emily – PGY2 Psychiatry**
HCA (Joint UT Institution) – Nashville, TN
ANTIPSYCHOTIC POLYPHARMACY AND THE IMPACT OF AN INTENSIVE QUALITY IMPROVEMENT STRATEGY ON COMPLIANCE WITH HOSPITAL BASED INPATIENT PSYCHIATRIC SERVICES (HBIPS) CORE MEASURES

4:40 **Taylor, Emily – PGY1 Pharmacy Practice**
East Jefferson General Hospital – Metairie, LA
DESCRIPTION OF MEDICATION ADHERENCE RATES AMONG ORAL CHEMOTHERAPY PATIENTS: PRE AND POST PHARMACOTHERAPY EDUCATION

5:00 **Saunders, Charles (Burton) – PGY1 Pharmacy Practice**
HCA (Joint UT Institution) – Nashville, TN
PHYSICIAN UTILIZATION OF PEDIATRIC DOSAGE CALCULATORS IN THE OUTPATIENT SETTING

Evaluation of Ambulatory Care Sensitive Hospitalizations Utilizing the Veterans Affairs (VA) Strategic Analytics for Improvement and Learning (SAIL) Model-Part I

M. Shawn McFarland, Alev H. Gulum, William Forkum
VA Tennessee Valley Healthcare System, Nashville, Tennessee

Background/purpose:
Hospitalizations secondary to ambulatory care sensitive conditions (ACSC) such as heart failure, pneumonia, hypertension, and COPD are considered largely preventable if ambulatory care is provided in a timely and effective manner. The Strategic Analytics for Improvement and Learning (SAIL) population management tool was developed by the Veterans Health Administration (VHA) to summarize hospital system performance and provide a model for comparing facilities to allow for continuous improvement, evaluation, and benchmarking of quality and efficiency. The aim of this study was to determine whether utilization of the SAIL population management tool to identify and coordinate care for "high risk" patients would reduce risk of readmission for ACSC.

Methodology:
A multi-center, prospective, quality improvement project was conducted evaluating patients identified as "high risk" for readmission for ACSC by the SAIL report between June 20th 2015 and April 1th, 2016. Patients were evaluated manually in the computerized patient record system (CPRS) to include patient demographics, pertinent ambulatory care sensitive conditions, laboratory values, provider follow-up, admission information, and pharmacy data. A pharmacist-led interdisciplinary team was formed to notify specific providers of "high risk" patients to evaluate and determine appropriate coordination of care based on pre-specified courses of action which included: provider follow up scheduled, specialty services consulted, assessment by clinical pharmacy specialist scheduled, non-institutional care modalities consulted, or other as deemed necessary. Responses to notifications as well as data regarding readmission were tracked manually from information in the patient's medical record.

Results:
Data collection and analysis in are in progress.

Conclusions:
Conclusions are pending analysis of available data.

Presentation Objective:
To evaluate whether implementation of a pharmacist-led multidisciplinary team utilizing population management data to coordinate care for "high risk" patients will have an impact on reducing readmission rates for ambulatory care sensitive conditions.

Self-assessment Question: What is the definition of "population management?"

COMPARISON OF PATIENT SELF-TESTING (PST) VERSUS ANTICOAGULATION CLINIC-BASED INR TESTING

Hunter Reeves, James Taylor
North Mississippi Medical Center - Tupelo, MS

Background/Purpose: Patients receiving treatment with warfarin need continuous prothrombin time/international normalized ratio (PT/INR) monitoring. When monitoring PT/INR in patients taking warfarin, it is important to reduce the number of critical values and increase the time in therapeutic range (TTR) in order to reduce the risk of bleeding, venous thromboembolism, and stroke. The purpose of this study is to compare time in therapeutic range and number of critical INRs for patient self-testers and patients receiving clinic-based INR testing at two anticoagulation clinics. The secondary objective of this study is to identify areas where the anticoagulation services could be improved and expanded.

Methodology: A retrospective chart review was conducted at two anticoagulation clinics. Data was collected from the clinics' electronic medical records for patients aged 18 years or older, who were being followed between the months of July 2014 and December 2015. All patient self-testers met inclusion criteria. Patients were excluded if he/she was receiving home health or if patient had been on warfarin for less than 3 months. Patient self-testers were randomized 1:1 with clinic-based testers. The primary endpoints are the time in therapeutic range and number of INR tests in range. The secondary endpoint is the number of critical INR values (INR greater than 5.0 or INR less than 1.5).

Results: Results pending.

Conclusions: To be presented at the Mid-South Pharmacy Residency Conference.

Presentation Objective: Describe the difference in time in therapeutic range, number of INR tests in range, and number of critical INR values in patients performing self-testing versus clinic-based INR testing.

Self-Assessment Question: Does patient self-testing of INR lead to more time in therapeutic range versus clinic-based INR testing?

Evaluation of an Interprofessional Telemental Health Program on Patient Outcomes

Amanda Warstler (primary author); Jennifer Bean (corresponding author); Jonathan Lister (corresponding author): VA TVHS Nashville, TN

Background:. Telemental health, the use of telemedicine to provide diagnosis, assessment, and treatment of mental health disorders, has expanded rapidly over the past decade. This innovative practice can increase access to care for those limited by residence in remote areas, time constraints, or those unable to leave home due to illnesses or reduced mobility. Telemental health has been shown to be comparable to in-person care, and collaborative telemedicine has demonstrated increased treatment response and remission rates, reductions in depression severity, and improvements in quality of life.

Methodology: This is a single-center, longitudinal, retrospective, chart-review study conducted at a VA Medical Center to evaluate the effects of interprofessional telemental health care on mental health response and remission rates, number of psychotropic medications 3 months pre and 6 months post enrollment into the telemedicine clinic, and use of evidence-based medicine. The VA Computerized Patient Record System (CPRS) will be used to obtain data.

Results: Pending. Of the 13 patients enrolled in the telemental health clinic since October 2014, longitudinal data from depression, PTSD, and anxiety symptom assessments, number of psychotropic medications prescribed, and use of evidence-based medicine will be reported for 10 patients. Three patients have been excluded due to absence of post assessment measures. All outcomes will be compared to pre-enrollment in the telemental health clinic.

Conclusions: Pending

Presentation Objective*:* To demonstrate the benefits (increased quality of care, patient satisfaction, treatment outcomes) of an interprofessional telemental health clinic on patient care and outcomes.

Self-Assessment Question: Who may be a good candidate for telemental health?

a. A patient on home IV antibiotics
b. A patient who lives 2 hours from clinic
c. A patient who is healthy, able to drive, and 15 minutes from clinic
d. A, B, and C
e. A & B

Economic Impact of Procalcitonin Guided Antibiotic Treatment in Patients with Sepsis Secondary to Pneumonia

Katie Clark, Kim McCrory
North Mississippi Medical Center
Tupelo, Mississippi

Background/Purpose:

Antibiotics are among the most widely used drugs in intensive care units (ICU). Increased antibiotic use in hospitalized patients has led to increased antimicrobial resistance that affects patient outcomes and resources. Procalcitonin (PCT) is a calcitonin precursor hormone that is thought to be a specific marker for severe bacterial infection. PCT has been reported to be more specific than conventional markers of infection, such as white blood cell counts or C-reactive protein. Results from small studies have suggested that a protocol based on serum PCT concentrations could reduce antibiotic treatment by 2 - 3 ½ days for patients in ICU with sepsis or septic shock. North Mississippi Medical Center has implemented a new protocol obtaining PCT levels on patients diagnosed with sepsis. This study aims to analyze the antibiotic use and cost difference associated with PCT guided antibiotic treatment therapy compared to the antibiotic use and cost on those without use of PCT guided therapy.

Methodology:

Data was collected retrospectively using the electronic medical record. Twenty-five patients diagnosed with sepsis secondary to pneumonia and had a procalcitonin lab result from November 2015 – December 2015 were analyzed for the cases. Twenty-five patients diagnosed with sepsis secondary to pneumonia from November 2014 – December 2014 were analyzed for the control group. The primary endpoint was the difference in length of antibiotic therapy between the two groups. Secondary endpoints included cost comparisons of antibiotics used and length of stay between the two groups.

Results:

Pending

Conclusions:

Pending

Presentation Objective:

Determine the difference in length of antibiotic therapy, cost, and length of stay between using a PCT guided antibiotic treatment therapy protocol compared to not having a PCT guided antibiotic protocol.

Self-Assessment Question:

Did having procalcitonin labs collected on patients affect the length of antibiotic therapy between the two groups of patients?

Evaluation of health literacy and knowledge of febrile neutropenia in parents and caregivers of pediatric hematology and oncology patients

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Background/Purpose: The National Assessment of Adult Literacy (NAAL) found that over one-third of U.S. adults have basic or below basic health literacy. Low caregiver literacy has been associated with less disease-related knowledge and poorer health outcomes in children. The primary objective of this study was to assess the health literacy and knowledge of febrile neutropenia in parents and caregivers of pediatric hematology and oncology patients. Secondary objectives were to identify any association between parent/caregiver health literacy and knowledge of infection control, signs of infection, and management of fevers, as well as to identify areas of improvement for parent and caregiver education.

Methodology: This study was approved by the Institutional Review Board at the University of Mississippi Medical Center. Participants included parents and caregivers of children and adolescents receiving care at the Mississippi Children's Cancer Center. Participants were identified via the patient database, and during the next scheduled visit to the outpatient clinic eligible participants and caregivers were met by a clinic nurse who will ask if they are willing to complete an optional, anonymous survey for research. Participants were given the following survey instruments: (1) a demographics questionnaire to assess basic participant characteristics (2) the Newest Vital Sign (NVS) health literacy assessment, and (3) a febrile neutropenia knowledge assessment designed by the study investigators. Scores from the health literacy assessment were compared to scores from the febrile neutropenia knowledge assessment to identify any association. Scores from the febrile neutropenia assessment were evaluated to identify any areas of improvement for parent and caregiver education.

Results: Results from this study are pending.

Conclusions: No conclusions from this study have been reached to date

Presentation Objectives: Describe the association between health literacy and knowledge of febrile neutropenia in parents and caregivers of pediatric hematology and oncology patients treated at the Mississippi Children's Cancer Center.

Self-Assessment Question: What is the average health literacy level of parents and caregivers of pediatric hematology and oncology patients treated at the Mississippi Children's Cancer Center?

Retrospective review of pediatric hypertension and management in the Mississippi Medicaid and Children's Health Insurance Program (CHIP) population

Brittany Gross[1], Benjamin Banahan[2], Shannon Hardwick[2], Deborah Minor[1]
University of Mississippi Medical Center[1], University of Mississippi School of Pharmacy[2]

Background/Purpose: Hypertension affects 1.6% of the pediatric population and is increasing. Among children with hypertension, one in three have evidence of target organ damage.

Medicaid/CHIP provide health benefits for children, with eligibility based on family size and household income. Because of demographics and other characteristics, hypertension prevalence among these beneficiaries is likely disproportionate. In prior reviews, children enrolled in Medicaid or <200% of the federal poverty level appear to receive blood pressure screening and treatment less often than those with private insurance or with higher income. Of the ~800,000 Mississippians enrolled in Medicaid or CHIP, children are the largest population (~58%).

Though guidelines give specific recommendations for management, little insight is published from clinical practice. The purpose of this project was to identify the prevalence of hypertension in the MS Medicaid/CHIP population, as well as review demographics, modalities of management, and assessments of compliance.

Methodology: A retrospective review was conducted from pharmacy and medical claims for patients ≤18 years. Hypertension was identified based on ICD-9/ICD-10 codes and pharmacy claims for medications.

Results: A total of 2,561 children were identified as having hypertension, with a prevalence of 1.04% in the 7-18 year-old group. Prevalence increased with age and was higher among blacks versus whites and males versus females. Only 665 children were identified as currently being treated with an antihypertensive, prescribed primarily by pediatricians and family practitioners. The most commonly prescribed classes were ACE-inhibitors (37%, of those treated), followed by calcium channel blockers (23%). Compliance varied significantly across age groups and among the most commonly prescribed medication classes, as well as between races.

Conclusions: Hypertension prevalence among Medicaid/CHIP beneficiaries was less than expected and treatment rates were low. Reasons for this are unclear and may reflect unmet needs, documenting the necessity for further review.

Presentation Objective: Describe prescribing patterns and compliance rates for antihypertensives in the Medicaid/CHIP pediatric population.

Self-Assessment Question: What is the most commonly prescribed antihypertensive in the Medicaid/CHIP population?

Heart Rate Control as a Marker of Beta-Blocker Efficacy in Hospitalized Heart Failure Patients

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Background/Purpose: Raised resting heart rate(HR), >70 beats per minute(bpm), has been shown to be a risk factor for cardiovascular outcomes and hospital readmissions, specifically in heart failure patients with reduced ejection fraction (HF*r*EF). Given their mortality benefit, beta-blockers are recommended in HF*r*EF, with a goal to titrate to a maximum dose rather than a specific HR target. The purpose of this study was to examine if hospitalized HF*r*EF patients receiving beta blockade are achieving optimal HR control prior to hospital discharge and determine the impact on hospital readmissions.

Methodology: A retrospective review of acute on chronic HF*r*EF patients between 09/2013-09/2015 was conducted. Inclusion criteria: age ≥18 years, EF <40%, beta blocker use ≥48 hours, and appropriate concomitant standard HF regimen at discharge. Exclusion criteria: ICU admission, dobutamine administration, atrial fibrillation history, implantable pacemaker and documented noncompliance. Patients were divided into groups based upon discharge HR control (<70bpm vs. ≥70bpm).

Results: Of the 2440 patients screened, 150 met inclusion criteria with only 21% achieving optimal HR control (n=32 HR <70bpm; n=118, HR ≥70bpm). Of note, only 26.9% (n=14) of patients receiving ≥50% target dose and 32% (n=9) receiving 100% target dose achieved optimal HR control. Interim analysis of patients with a HR <70bpm vs. HR ≥70bpm revealed similar 30-day readmission rates (9% vs. 12% respectively;p=0.76) and ER visits (9% vs. 6% respectively;p=0.44). However, those receiving ≥50% target dose exhibited a nonsignificant decrease in readmission rates compared to those receiving <50% target dose (8% vs. 14% respectively; p=0.30).

Conclusions: Readmission rates were similar among HF*r*EF patients despite the majority failing to achieve optimal HR control secondary to beta-blockade. However, beta-blockade still remains suboptimal relative to guideline recommended target doses. More data are needed to fully assess the utility of HR control in the HF*r*EF population.

Presentation Objective: Evaluate the effect of HR control on hospital readmission rates in HF*r*EF patients receiving beta blockers.

Self-Assessment Question: Does targeting a HR < 70bpm decrease HF readmissions?

Title: Mississippi Kidney Foundation's renal evaluation and assessment program (REAP): assessment of resource management and targeted participant follow up

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Purpose: Through REAP, participants receive screenings for cardiovascular and renal disease risk factors. At each screening, participants obtain blood pressure, height, weight, laboratory assessments, and complete a questionnaire regarding risk factors and disease history. Participants also receive written information about values/goals and consultation with a healthcare provider. In 2013, an evaluation reviewed the impact of REAP and the need for changes. Following this, additional assessments were added, along with more comprehensive participant data collection. It was also identified that to improve outreach and potentially influence patient care, a more rigorous system of risk stratification with targeted follow-up was needed. The purpose of this research is to further define the impact of REAP and the value of targeted participant follow-up, in reference to resource management and patient care.

Methods: More rigorous tracking and review of disease and treatment history were incorporated into the September 2015 REAP. Participants at moderate-high risk for cardiovascular and renal disease were identified through a stratification process and randomized into one of two groups (standard, intervention). Both groups received a routine follow-up letter containing laboratory values and interpretations. The intervention group then received a phone call approximately 2 weeks following the screening. This call reviewed and emphasized individual risk factors, abnormal labs, and suggested follow-up. After 2-3 months, both groups will be contacted to determine if any follow-up occurred or other changes were made impacting patient care (medications, further evaluation). Outcomes will be compared.

Results/Preliminary: Of the 108 individuals participating in the September screening, 73% were female, and 88% African American, with an average age of 63 years. Overall, 25% had proteinuria, 77% identified that had a primary care provider, and 81% had insurance.

Conclusion: To be presented.

Presentation Objective: Describe the impact of targeted participant follow-up and resource management for REAP and changes that could improve outreach and participant care.

Self-Assessment Question: What percentage of REAP participants are moderate to high risk for kidney disease?

Impact of Fluid Balance on Clinical Outcomes in Patients with Intracerebral Hemorrhage: A Pilot Study

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Background: Intracerebral hemorrhage (ICH) accounts for approximately two million strokes worldwide on an annual basis. Mortality is high in ICH and studied treatments have yet to reduce mortality in prospective trials. Due to lack of clinical benefit, additional targets of therapy warrant investigation. Optimal fluid status in the critically ill has demonstrated impact on mortality in several disease states, although no literature exists investigating this target in ICH. Our study aimed to demonstrate an impact of fluid status on outcomes, including mortality, in ICH.

Methodology: A retrospective case-control study of adult patients discharged from Methodist University Hospital with a diagnosis of ICH between 10/15/2011-9/1/2015 was conducted. Patients were divided into two groups based on high or low cumulative fluid balance (CFB) of ≥2.5L (HFB) or <2.5L (LFB) at the end of hospital day three. Groups were compared to determine ICU length of stay (LOS), discharge location, and in-hospital mortality.

Results: Of the 65 patients studied to date, 22 reached HFB and 43 had LFB at the end of hospital day three. Mean ICU LOS was 9.4 days, with no difference between groups (9.2±6.7 HFB vs 9.5±6.5 LFB, p=0.86). Among patients studied, 24.6% were discharged home (31.8% HFB vs 20.9% LFB, p=0.37), 46.1% to a facility (40.9% HFB vs 48.8% LFB, p=0.61), and 29.2% did not survive to discharge (27.3% HFB vs 30.2% LFB, p>0.99).

Conclusion: Based on our results thus far, CFB at the end of hospital day three does not have a significant impact on clinical outcomes in patients with ICH. Additional data continues to be collected and mortality will be adjusted for confounding factors in the final analysis.

Presentation Objective:
Evaluate the impact of a HCFB on clinical outcomes in ICH

Question:
Does a HCFB lead to poorer outcomes in patients with ICH?

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Title: The Implementation of an Accredited Diabetes Self-Management Education Program in a Community Pharmacy

Background/Purpose: With the high prevalence of diabetes in the United States and its well-documented long-term complications, this service will aim to assess the role that community pharmacists can play in educating patients with diabetes and the effect that improved education has on their overall health and satisfaction with pharmacy-based services. This study also aims to highlight the potential value of this initiative as a clinical service in the community pharmacy. This service was initiated at Perkins Drugs in Gallatin, TN through a grant received from the Tennessee Pharmacists Research and Education Foundation. The grant provided training for the pharmacy to attain accreditation through the American Association of Diabetes Educators (AADE).

Methodology: Subjects are participating in monthly diabetes education sessions following the AADE curriculum and have agreed to CLIA-waived point of care testing done as a part of their overall health screening at baseline and at set follow-up intervals. The pharmacy computer system, RX30©, was utilized to assess patients' adherence and recruit participants to the study. Patients with less than 80% adherence to diabetes medications are the initial focus of the program.

Subjects completed a brief survey obtaining both objective and subjective data. This information included past medical history, perceptions of diabetes, opinions about their health, and overall past experience with patient satisfaction with the health system. The participant also had their cholesterol, hemoglobin A1c, and fasting blood glucose documented. The initial screening will be repeated at 3 months and 6 months to determine the impact of the intervention on the participants' therapeutic values and overall health status.

Results: Preliminary results are in the process of being collected currently.

Presentation Objective: Identify the key components of implementing a diabetes self-management education program in a community pharmacy

Self-Assessment Question: Which of the following is a key component of an AADE-accredited diabetes education program?

A) An established collaborative practice agreement
B) A multidisciplinary advisory board
C) Credentialing as a Certified Diabetes Educator
D) Private clinic space within the pharmacy

Retrospective analysis of antibiotic prescribing in the emergency department, identifying opportunities for pharmacy involvement

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Background/Purpose: Inappropriate antibiotic prescribing in the emergency department (ED) poses a huge risk to public safety. As ED admission rates continue to rise, so does the need for antibiotic stewardship. Studies show pharmacists have the potential to significantly improve patient care by reducing errors and optimizing medication therapy. The purpose of this analysis is to evaluate antibiotic prescribing of urinary tract infections (UTIs) in the ED, while identifying areas of opportunity for pharmacy involvement.

Methodology: The Institutional Review Board has approved this study. An evaluation of antibiotic prescribing in the ED was conducted through a retrospective chart review. Patients 18 years and older prescribed an outpatient antibiotic in the ED 1/1/2015 through 3/30/2015 for a UTI or pyelonephritis were included. Antibiotic selection, dose, route, and frequency were reviewed for appropriateness according to guideline recommendations and current evidence-based practices. Secondary outcomes included 30-day readmission rates and potential cost savings opportunities.

Results: A total of 191 patients were reviewed. The average age of participants was 45.2 years and 84.9% were female. Forty-nine percent of patients had uncomplicated cystitis, 34% had pyelonephritis and 17% were asymptomatic based on clinical presentation. Of the antibiotics prescribed, 35.1% were cephalexin, 23.6% were nitrofurantoin, 18.8% were fluoroquinolones, 16.2% were sulfamethoxazole/trimethoprim and 6.3% were for another type of antibiotic. Patients with uncomplicated cystitis and pyelonephritis received 260 and 114 inappropriate days of therapy respectively. The percentage of antibiotics requiring renal adjustment was 9.4% and the 30-day readmission rate was 12%.

Conclusions: Areas of opportunity identified include classification of asymptomatic patients for which treatment is not indicated, the selection of appropriate antibiotics and therapy duration, and renal dosage adjustments. Pharmacy involvement in these areas has the potential to decrease patient costs and readmission rates and improve patient outcomes.

Presentation Objective: Evaluate the appropriateness of empiric antibiotic prescribing of UTIs in the ED to identify areas pharmacy can be involved in antimicrobial stewardship.

Self-Assessment Question: How can pharmacists be involved in antimicrobial stewardship in the emergency department?

Transitions of Care: Reducing Readmission Rates in Patients with COPD

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Background/Purpose: Chronic Obstructive Pulmonary Disease (COPD) is a chronic, progressive lung disease that affects an estimated 24 million adults and is the third leading cause of death in the United States. Readmission rates in the United States are high, and Medicare will not reimburse hospitals for readmissions that occur within 30 days of initial hospital discharge. Data reported for Saint Thomas Rutherford Hospital (STRH) from November 2014 to January 2015, showed a 30-day COPD readmission rate of 12.6%. STRH has a multidisciplinary transitions of care COPD team who educate patients on their disease state and counsel on proper inhaler technique and smoking cessation. STRH has added pharmacists to the COPD transitions of care team to focus on accuracy of medication histories and optimization of therapeutic regimens based on severity of disease and guideline recommendations. The primary endpoint of this study is to evaluate readmission rates due to COPD exacerbations when medication regimen optimization is added to the COPD prevention program at Saint Thomas Rutherford Hospital.

Methodology: A medication reconciliation and adherence assessment was performed by investigators for each study participant. Recommendations for adjustments to each patient's medication regimens were made based off of bedside spirometry, guideline recommendations, and patients' outpatient prescription coverage. Number of readmissions for each patient was then compared for the three months prior to and following participation in this study.

Results: The overall three month readmission rate for patients in this study was reduced from 41% (n=9) to 27% (n=6). The overall 30 day readmission rate was reduced from 14% n=3) to 9% (n=2). Upon admission, 55% (n=12) had inappropriate medication regimens, 50% (n=11) had inaccurate medication histories documented in their medical record, and 36% (n=8) were noncompliant. During this study, 41% (n=9) of patients had medication regimens improved based on guideline recommendations.

Conclusions: Pending.

Presentation Objective: To educate health-care professionals on the importance of a pharmacist's involvement in transitions of care.

Self-Assessment Question: How does having a pharmacist involved in transitions of care improve outcomes?

Retrospective analysis of extended-infusion piperacillin-tazobactam in extremely obese patients in a community hospital

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Background/Purpose: Extreme obesity has become a growing issue in the United States. This population with a body-mass index (BMI) of 40 kg/m^2 or greater quadrupled between 1986 and 2000. Physiological changes related to obesity can alter pharmacokinetic properties. Data supporting the administration of piperacillin-tazobactam in an extended-infusion regimen shows a decrease in administration frequency, cost and improved clinical outcomes. This research does not address outcomes in extremely obese patients. The purpose of this study was to evaluate the effectiveness of extended-infusion piperacillin-tazobactam in patients with a BMI ≥ 40 kg/m^2 compared to intermittent-infusion piperacillin-tazobactam in a community hospital setting.

Methodology: This study was approved by the Institutional Review Board. Patients with a BMI ≥ 40 kg/m^2 who received at least 48 hours of intermittent-infusion piperacillin-tazobactam 4/1/14 through 9/30/14 or extended-infusion 2/1/15 through 7/31/15 were identified by the electronic medical record system. The following data was collected: demographics, indication, labs, antibiotics received, culture data, length of antibiotic therapy, outcomes including length of stay, resolution of infection as well as other pertinent information. A BMI less than 40, dialysis, renal transplant, pregnancy/lactation, growth of resistant organism, malignancy, HIV positive, neutropenia or presence of gram-negative coverage after 72 hours of therapy were considered exclusion criteria. Secondary outcomes included subgroup analysis of different types of infection.

Results: A total of 196 patients were reviewed. Due to exclusion criteria, 151 participants were excluded, leaving 55 to be included in the study. The average age of participants was 60.3 and 41.8% were male. The average BMI in the study was 48.0 kg/m^2. The average length of stay was 6.10 days in the intermittent-infusion group and 6.32 days in the extended-infusion group.

Conclusions: There is a trend towards suboptimal outcomes with 3.375 g extended-infusion therapy in patients with a BMI ≥ 40 kg/m^2.

Presentation Objective: Evaluate outcomes in patients with a BMI ≥ 40 kg/m^2 receiving piperacillin-tazobactam.

Self-Assessment Question: Administering piperacillin-tazobactam as an extended-infusion regimen results in which of the following?

Comparison of the Defined Daily Dose (DDD) and Days of Therapy (DOT) as Metrics for Antibiotic Utilization in a Three Hospital System

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Murfreesboro, TN

Background/Purpose: The World Health Organization (WHO) has set the defined daily dose (DDD) as the benchmark for monitoring antimicrobial usage within hospitals. The DDD is composed of the total number of grams of an antibiotic purchased and divided by the drug's set DDD number. The DDD number is based on the most commonly used daily dosage for the antibiotic's primary indication. The basics of this metric have led to issues in its accuracy when patients require dose adjustments or doses for off label uses. Another metric that has been developed, duration of therapy (DOT), measures the number of days a patient receives a single dose for each individual antibiotic. Debate exists regarding which of these metrics can be best applied for analyzing antibiotic usage. Some believe that the DDD's short comings regarding renal dose adjustments and the fact that the DDD data is obtained from the number of grams purchased leads to major inaccuracies for getting a strong snapshot of appropriate antibiotics used. While others believe the DOT represents a more accurate measurement of the appropriateness of antibiotic usage. We aim to compare the effectiveness of the DDD and DOT as metrics for assessing antibiotic utilization across three hospitals within a single health system.
Methodology: Retrospective chart review focused on antibiotics administered among the Saint Thomas Health System from January – June 2015.
Results: 87,675 antibiotics administered during this time frame.
Conclusions: Pending
Presentation Objective: Apply the DDD and DOT metrics toward antibiotic utilization in clinical practice.
Self-Assessment Question: What is one of the main deficiencies of using the DDD as the antibiotic utilization metric for your hospital?

Increasing Mississippi pharmacist awareness about cessation (IMPAC): a statewide needs assessment for community pharmacist tobacco cessation services

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Background/Purpose: An estimated 5,400 adults in Mississippi die each year from smoking-related health complications; approximately 192,000 children in the state are exposed to second-hand smoke annually. The Mississippi State Health Department's Office of Tobacco Control has identified pharmacists as healthcare providers capable of improving patient health outcomes and quality of care, particularly in conjunction with efforts initiated by primary care providers. This project was designed to identify the needs of community pharmacists to successfully engage patients in comprehensive, evidence-based tobacco cessation services.

Methodology: A 25-question electronic survey was developed via Qualtrics, with invitations to participate distributed via email to licensed Mississippi pharmacists and student pharmacists assessing the existing level of pharmacists' capacity, knowledge, attitudes, and beliefs about roles and responsibilities for tobacco cessation and referral. Survey links were distributed via email to Wal-Mart, Kroger, CVS, and Walgreens pharmacists by regional/district managers, as well as the membership of the Mississippi Pharmacists Association. Following completion of survey collection, individuals will be identified to participate in focus groups to assist with determining interest, knowledge, and capacity to engage in evidence-based tobacco cessation methods.

Preliminary Results: A total of 93 complete survey responses have been recorded to date. Of these, 86% agreed or strongly agreed that pharmacists have a responsibility to advise patients on tobacco cessation. Seventy percent received cessation training either during or after pharmacy school, but only 9% conducted >5 tobacco cessation interventions in the past month. Eighty percent indicated that having sufficient time would increase their willingness to offer cessation services; 57% stated support from leadership would increase their willingness to offer these services.

Conclusions: Pending study completion

Presentation Objective: Highlight the need for tobacco cessation services in Mississippi, as well as the opportunities for improving community pharmacist involvement in delivering those services based on self-reported needs as they relate to current practices.

Self-Assessment Question: Based on the preliminary results of this study, what are 2 potential factors that may currently limit delivery of tobacco cessation services by Mississippi community pharmacists?

Identifying Levorphanol Ingestion using Urine Markers in Chronic Pain Patients

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Background / Purpose:
Levorphanol is a long-acting opioid that binds mu, delta, and kappa opioid receptors in the brain, decreases activity at the N-methyl-D-aspartate (NMDA) receptor, and blocks uptake of serotonin and norepinephrine.[1] It is a chemical isomer of dextrorphan, a metabolite of dextromethorphan.[2,3] This study investigates urinary concentrations of levorphanol/dextrorphan and 3-hydroxymorphinan and characterizes cases of potential levorphanol ingestion based on detection of relevant urinary markers.

Methodology:
Urine drug test results from patients submitted to Aegis® Sciences between July 2014 and July 2015 were evaluated for levorphanol/dextrorphan and 3-hydroxymorphinan by liquid chromatography / tandem mass spectrometry (LC-MS/MS) above the limit of quantitation (LOQ) of 10 ng/mL (*N* = 279). An isomeric analysis was not performed to differentiate dextrorphan from levorphanol. Results for patients with detectable concentrations of dextromethorphan or 3-methoxymorphinan were eliminated, as these are specific to dextromethorphan ingestion (*N* = 211).

Results:

Prescription Information	*N*	Mean Urinary Concentrations (ng/mL)	
		Levorphanol/Dextrorphan	3-hydroxymorphinan
Dextromethorphan	16	430.27	358.65
Levorphanol	4	5032.84	514.5
No Prescription Indicated	48	525.02	306.71
Total	**68**	**767.89**	**331.16**

Conclusions:
To our knowledge, this is the first report identifying urinary concentrations of levorphanol/dextrorphan and 3-hydroxymorphinan. Many patients prescribed dextromethorphan did not have detectable urinary concentrations of dextromethorphan or 3-methyoxymorphinan. Therefore, it may be impossible to distinguish between levorphanol or dextromethorphan ingestion unless dextromethorphan or 3-methoxymorphinan are present or an isomeric analysis is performed.

Presentation Objective:
Distinguishing between levorphanol and dextromethorphan ingestion utilizing urine drug testing may be impossible unless dextromethorphan-specific markers are present or an isomeric analysis is performed.

Self Assessment Question:
Which urine markers are specific to dextromethorphan ingestion?

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Impact of Pharmacy-Led Education and Intervention in Management of ICU Delirium

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Background/Purpose

ICU delirium is a common complication frequently occurring in critical care units and is highly associated with poor patient outcomes. Individuals who develop delirium have been shown to have increased length of stay, increased ventilator days, sustained cognitive impairment post-discharge, as well as increased rates of morbidity and mortality. The purpose of this study was to determine the impact of pharmacist-led education on assessment, prevention, and treatment of ICU delirium and to implement a pharmacy consult service to help improve management.

Methodology

The ICU delirium consult service was developed by pharmacy and incorporated key elements from the Society of Critical Care Medicine Guidelines for management of pain, agitation and delirium. The pilot service was approved by the hospital's Quality Review Committee in September 2015 and launched October 1st, 2015. The scope was limited to BHMC's general medical ICU. Before October 1st, a thirty minute in-service was required of all nurses working in the unit. The in-service focused on delirium causes, prevention, assessment, and treatment. During the one month study period, documentation of CAM-ICU was checked daily by the pharmacist and appropriate recommendations or interventions were made. An IRB exempt retrospective review was conducted, comparing CAM-ICU documentation, as well as haloperidol, midazolam, and fentanyl use in October of 2014 to October of 2015.

Results

In October 2014, 71.79% patients had CAM-ICU documented consistently throughout ICU stay compared to 86.01% of patients in October 2015, for a 14.22% improvement in assessment rates ($p=0.0025$). Haloperidol use decreased by 2.49% ($p=0.3097$), midazolam by 15.85% ($p=0.0045$), and fentanyl by 17.33% ($p=0.0023$). Five pharmacy delirium consults were placed during the study period.

Conclusions

Pharmacist education and intervention improved assessment of delirium through use of CAM-ICU and reduced use of inappropriate sedation. There was not a significant reduction in haloperidol use.

Presentation Objective

Describe the role pharmacists can play in assessment, prevention, and treatment of ICU delirium.

Self-Assessment Question

How can a pharmacist contribute to the assessment, prevention, and treatment of ICU delirium?

The presence of parent cocaine in the absence of benzoylecgonine in urine specimens of pain management and addiction treatment patients.

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Background/Purpose: Cocaine is currently abused by over 1.5 million individuals and is the number one illicit drug responsible for emergency department visits in the United States. With clinical drug testing, analysis for parent cocaine (COC) is not a common practice due to its rapid hydrolysis and short detection period. Benzoylecgonine (BZE), a major metabolite, can be detected in urine several days after cocaine use.

Methodology: A database was created from all specimens submitted to Aegis by pain management and addiction treatment providers from January to July 2015 that were positive for cocaine, determined by the presence of COC and/or BZE above the limit of quantitation (LOQ, 50 ng/mL). All specimens were tested by liquid chromatography tandem mass spectrometry (LC–MS–MS) analyses.

Results: A total of 7,832 urine specimens from 6,151 patients were positive for cocaine. Specimens originated from 749 clinics in 39 states. Of these specimens, 96.8% and 26% were positive for BZE and COC, respectively. BZE-only results were prevalent in our analysis, including 74% of total positive specimens. Of interest, 3.2% of positive specimens were positive for COC in the absence of BZE. Of 203 patients with COC-only results, 30 patients had multiple specimens with this pattern. One patient provided 5 specimens with COC-only results. Forty-eight patients with COC-only results provided additional specimens with BZE present.

Conclusions: Inter-patient variability in metabolic enzyme activity has been reported and can cause unexpected excretion patterns. However, the presence of parent cocaine without metabolite has not been previously reported or elucidated. Factors such as enzyme deficiencies and drug interactions may lead to variability in excretion patterns. This report highlights the potential utility of testing for COC in addition to BZE in the clinical setting.

Presentation Objective: To describe cocaine excretion patterns in pain management and addiction treatment patients and discuss individual variations that may lead to unexpected results.

Self-Assessment Question: What is the typical metabolism pattern for cocaine and benzoylecgonine?

Evaluation of Reimbursement Potential for Inpatient Pharmacist Services

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Little Rock, AR

Background/Purpose: While reimbursement for inpatient clinical pharmacy services is a challenge, it has been achieved. Oregon pharmacists received substantial reimbursement using Centers for Medicare and Medicaid Services (CMS) Evaluation/Management (E/M) Current Procedural Terminology (CPT) codes 99211-99215. Due to the bundled payment structure in Arkansas, Baptist Health Medical Center – Little Rock is currently unable to bill for inpatient pharmacist services. However, outcomes measured may be of interest to insurers leading to possible reimbursement opportunities in the future. The purpose of this study is to capture the value of inpatient pharmacy services through evaluating patient satisfaction, quality of care, and cost of care.

Methodology: Western Institutional Review Board (IRB) has determined this project to not involve research due to its quality improvement nature. The study evaluated pharmacist interventions provided over a two month time frame to all patients admitted to a 31 bed pulmonary unit within the facility. All pharmacist direct patient care interventions, including medication reconciliation, consult management, and discharge counseling were documented within the electronic medical record. Thirty-day readmission rates, overall cost of care, and Hospital Consumer Assessment of Healthcare Providers and Systems (HCHAPS) patient satisfaction data will be compared to data from the same two month period the previous year.

Results: Pending

Conclusion: Pending

Presentation Objective: Discuss calculated potential reimbursement for services using EM/CPT codes based on levels of Medication Therapy Management (MTM) complexity.

Self-Assessment Question: Did inpatient pharmacist interventions 1) improve patient satisfaction, 2) improve quality of care, and/or 3) decrease cost of care?

Analysis of Antibiotic Selection for Urinary Tract Infections in a Community Hospital

Dillon Clark; Melvin Crumby; Anastasia Jenkins
Baptist Memorial Hospital – North Mississippi
Oxford, Mississippi

Background/Purpose

Appropriate treatment of UTIs is essential in order to decrease rates of resistance to commonly used antibiotics. In order to decrease resistance rates, it is essential that narrowing of therapy occurs following susceptibility reporting.

Baptist Memorial Hospital-North Mississippi (BMH-NM) does not have on-site infectious disease (ID) physicians, and ID consult needs are currently met through telemedicine. On average, patients are seen by the ID physician within 24 to 48 hours of consultation request. On-site practitioners are, therefore, very involved in patients' antibiotic therapy. One particularly impactful opportunity for such involvement is when organism susceptibility reports are available. Punctual responses are essential in order to adjust therapy based on organism susceptibility.

Pharmacists at BMH-NM participate in therapy decisions using the EPIC decision-support tool, which screens culture results and antibiotic therapy; they can then contact physicians with recommendations. The purpose of this study is to determine the appropriateness of initial antibiotic therapy decisions, as well as how quickly adjustments are made to antibiotics following susceptibility results in patients with UTIs-. Current prescribing patterns will be evaluated and results will be analyzed to determine if and when pharmacy intervention would be most beneficial.

Methodology

Data was gathered by retrospective chart review and entered into an excel spreadsheet. Charts that were reviewed included any inpatients that had a positive urine culture between July 1, 2015 and September 30, 2015 at BMH – NM. Patients were excluded if they were less than 18 years of age, had an indwelling catheter, were receiving antibiotics for any other infection or were admitted for observation only.

Results

Results were not yet formulated at the time of abstract submission.

Conclusions

There had been no conclusion drawn from the data at time of abstract submission.

Presentation Objective

Evaluate appropriateness of initial antibiotic selection for patients with documented urinary tract infections, as well as how quickly medications therapy was narrowed after culture result.

Self-Assessment question

At what rate were organisms in the urine susceptible to initial antibiotic treatment choice?

Pharmacist-Driven Antimicrobial Stewardship Implementation in a Community Hospital

Areeman Saed, Casey White, Leah Ingram, and Jason Hutchens
Cookeville Regional Medical Center
Cookeville, TN

Background/Purpose: Antimicrobial stewardship is used in health systems to improve patient outcome by minimizing the unintended consequences of antimicrobial use, including antimicrobial resistance. Infections caused by antimicrobial-resistant pathogens result in significant mortality each year. The purpose of this project is to develop a formalized pharmacy-led antimicrobial stewardship program (ASP) at Cookeville Regional Medical Center with the goal to maximize positive patient outcomes while curbing inappropriate use of antimicrobials.

Methodology: To lead the initiation of the ASP, an interprofessional committee was formed from the pharmacy team, infectious disease specialist, microbiology staff, quality control representatives, nursing staff, and members of the hospital administration. ASP policies were designed with full administration approval. Upon implementation of the program, daily reports will be generated for the pharmacy staff via Sentri7® (clinical decision support software) based on rules generated from regulatory requirements, current antimicrobial resistance patterns, formulary issues, and team feedback. The pharmacy team will review all patients receiving antimicrobial therapy, follow up on cultures and susceptibilities, assess appropriate dosing, and then coordinate these data with the infectious disease physician according to the level of complexity and acuity of cases.

Results: Results are pending. Data will be collected starting March, 2016. Once data becomes available, it will be analyzed and final reports will be generated and distributed among the committee members and hospital administration.

Conclusions: Our team has successfully initiated the ASP project with data collection scheduled to begin March, 2016. The team will monitor antimicrobial cost, infection-related mortality rate, and antibiotic-associated length of stay. Ideally reduction of methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant enterococci, *Clostridium difficile* infection rates as well as hospital-acquired infection rates will be achieved.

Presentation Objective: To describe implementation of a pharmacist-driven antimicrobial stewardship program in a community hospital and the potential impact on patient care, antimicrobial resistance, and cost savings.

Self-Assessment Question: What are the potential impacts of a pharmacist-driven antimicrobial stewardship program?

Blood Glucose Control in Type 2 Diabetes Mellitus (T2DM) Adult Patients Post-Cardiac Surgery

Author(s): Charita Marthone & Anh Le
East Jefferson General Hospital, Metairie, LA

ABSTRACT

Background/Purpose
Hyperglycemia in post-cardiac surgery patients may increase the risk of complications leading to poorer outcomes and longer durations of hospital stay. At East Jefferson General Hospital (EJGH), the adult insulin infusion protocol for CABG/valve surgery is used to manage blood glucose (BG) readings ≥180mg/dL. While blood sugars are controlled on the insulin infusion, it is not known if BGs are well controlled after the transition off the insulin drip. The objective of this study is to describe the rate of glucose control among T2DM patients post-cardiac surgery throughout their hospital stay at EJGH within a 12 month period.

Methodology
A retrospective chart review was conducted from January 1, 2014 to December 31, 2014 for patients who underwent cardiac surgery under the CABG/valve surgery adult insulin infusion protocol. Patients included in the study were 18 years of age or older, admitted for cardiac surgery, and had a diagnosis of T2DM and/or an A1C of ≥6.5% prior to surgery.

Results
Out of 146 patients who underwent cardiac surgery during the allotted time frame, a total of 51 patients were found to have T2DM. Out of the 51 patients, 86% had BG readings ≥180mg/dL throughout their stay, post-operatively.T2DM patients with hyperglycemia throughout their entire stay were more likely to have adverse outcomes including atrial fibrillation, pleural effusion, worsening renal function, respiratory distress, leukocytosis, acute blood loss, thrombocytopenia, and an extended length of stay.

Conclusion
These findings suggest the need for better management of blood glucose throughout the entire hospital stay in diabetic patients undergoing cardiac surgery.

Presentation Objective
To determine the significance of blood glucose control in Type 2 Diabetes Mellitus patients post cardiac surgery throughout their hospital stay.

Self-Assessment Question
What effect does blood glucose management have on patient outcomes post cardiac surgery?

Antipsychotic polypharmacy and the impact of an intensive quality improvement strategy on compliance with Hospital Based Inpatient Psychiatric Services (HBIPS) core measures

Emily Wright, HCA/University of Tennessee, Nashville, Tennessee; Liz Hofammann, HCA, Nashville, Tennessee; Ty Elders, HCA, Nashville, Tennessee; Katie Liveoak, TriStar Centennial Parthenon Pavilion, Nashville, Tennessee; Karla Miller, HCA, Nashville, Tennessee

Background/Purpose: Antipsychotic polypharmacy (APP) describes the use of more than one antipsychotic medication. APP provides limited clinical benefit in the management of most behavioral health conditions, while increasing the risk of adverse effects. While APP may be beneficial in a subset of patients with treatment-resistant schizophrenia, practice guidelines recommend the use of a second scheduled antipsychotic only after multiple trials of a single antipsychotic have proven inadequate, including a trial of clozapine (an agent which has historically demonstrated superior efficacy in patients with treatment resistance). APP is addressed by two core performance measures applied by The Joint Commission (TJC) as part of the Hospital-Based Inpatient Psychiatric Services (HBIPS) core measures. The purpose of this study is to evaluate the effect of an intensive, collaborative quality improvement initiative on antipsychotic polypharmacy for patients discharged from five inpatient behavioral health facilities.

Methodology: This retrospective study was approved by the University of Tennessee Health Science Center Institutional Review Board. Patients included in the Hospital Corporation of America (HCA) HBIPS sample from five HCA behavioral health facilities will be reviewed. On-site visits to these five facilities were completed as part of an enterprise-wide performance improvement strategy known as Evidence Based Care Measures (EBCM). During the EBCM visits, education pertaining to APP was provided to facility staff which included in-depth discussion regarding indications for APP, accepted justification for APP according to HBIPS-5 criteria, alternatives to APP, and recommended monitoring. Patient groups will be compared before and after the execution of the EBCM site visits, which occurred in September and October of 2014. Demographic variables, medication administration data, ICD-9 codes, and hospital admission information will be collected.

Results: We will report the number and percent of patients discharged with APP and analyze prescribing patterns after execution of a quality improvement initiative.

Conclusions: In progress

Presentation Objective: To appraise a quality improvement strategy aimed to reduce antipsychotic polypharmacy prescribing

Self-Assessment Question: What are the justifications for multiple antipsychotic use that are considered appropriate for compliance with HBIPS-5?

Description of Medication Adherence Rates among Oral Chemotherapy Patients: Pre and Post Pharmacotherapy Education

Emily Taylor, Lovie Rodgers, Colette Baudoin
East Jefferson General Hospital
Metairie, LA

Background/Purpose:
FDA approved oral chemotherapy agents have changed the treatment outlook for cancer from an acute to a chronic disease. Medication adherence is a significant factor for positive outcomes in cancer treatment; yet data show only approximately 50% adherence rates to oral therapy. The objective of this project is to describe medication adherence rates among patients in a commercial health plan receiving oral chemotherapy agents and oncology educational medication cards (OEMC) at East Jefferson General Hospital.

Methodology:
A retrospective chart review was conducted for patients with a cancer diagnosis of myeloma, renal or breast cancer from June 2015 to April 2016. Inclusion criteria included members of one commercial health plan with at least one oral chemotherapy prescription fill. The evaluation period is 5 months pre and post the availability of OEMCs in November 2015. Proportion of days covered (PDC) was utilized to determine medication adherence. The primary outcome is PDC rates among patients before and after the introduction of OEMCs.

Results:
Twenty-four patients were included in the analysis. The PDC rates ranged from 51% to 100% per patient. Preliminary results indicate medication adherence increased from 92.8% to 94.93% after the distribution of OEMCs to the sample population. The majority of the population had breast cancer (88%). In the breast cancer population, the PDC rate was 95% compared to 98% post availability of OEMCs.

Conclusions:
There was a 2.1% increase in medication adherence after the distribution of the OEMCs. Depending on the type of cancer and complexity of the regimen, additional resources and education may be needed in order to improve compliance.

Presentation Objection:

The presentation objective is to describe medication adherence rates among cancer patients receiving oral chemotherapy agents and oncology educational medication cards.

Self-Assessment Question:

What is the current rate of medication adherence to oral chemotherapy in the United States?

Physician utilization of pediatric dosage calculators in the outpatient setting

Burton Saunders, Carol L. White, Matthew Sanders, Kara Murray

Hospital Corporation of America & University of Tennessee College of Pharmacy

Background: One of the foundations of reducing medication errors is a systems approach to human error, which recognizes that systems should be designed with controls to affect the environment instead of the individual. Examples of systematic error reduction tools include forcing functions and automation. Clinical decision support (CDS) and computerized provider order entry (CPOE) in the electronic health record (EHR) use technology to help decrease medication dosing errors. However, pediatric patients are at particularly high risk of morbidity and mortality, given the dosing variations associated with pediatric medications and the unique pharmacokinetic and pharmacodynamic attributes of pediatric patients.

However, the utilization of dosing calculators in the EHR is not well-defined in the literature. Pre-programmed, recommended doses may improve the accuracy and precision of medication doses and prevent errors but also have the potential to cause harm if utilized inappropriately. Additional variables, such as patient weight, medication concentration, and dosage instructions may provide further instances of error if auto-populated. EHR technologies also vary in the clinical resources, formatting, and CDS alerts used to recommend pediatric dosing.

Purpose: This study seeks to qualitatively assess which CDS tools physicians use to calculate pediatric dosages in the outpatient setting.

Methodology: Pending IRB approval, a survey regarding the methodology and resources prescribers utilize for dosing pediatric medications will be sent to select Hospital Corporation of America (HCA) pediatric and family medicine Physician Services Group (PSG) practices. Information will be collected and analyzed to identify the tools used to calculate doses, the reasons why specific tools are utilized, and practitioner trends in pediatric dosing. Based on the results of this study, future initiatives will be implemented to improve pediatric medication safety in the EHR, with a focus on preventing medication dosing errors.

Results: Results pending data analysis.

Conclusions: Results pending data analysis.

Presentation Objective: Understand the vulnerabilities of pediatric patients to dosing errors

Self-Assessment Question: What unique aspects of pediatric pharmacokinetics and pharmacodynamics predispose these patients to dosing errors?

Friday, April 22
Session III

Room 123

8:20 **Watson, Troy – PGY1 Pharmacy Practice**
HCA (Joint UT Institution) – Nashville, TN
IMPACT OF VARIATION IN ANTITHROMBOTIC THERAPY POST-PRIMARY PERCUTANEOUS CORONARY INTERVENTION

8:40 **Bruce, Bradley – PGY2 Corporate Pharmacy Leadership**
HealthTrust - Brentwood, TN
"LOOKING UNDER THE HOOD OF BIG PHARMA" - ASSESSMENT OF PHARMACEUTICAL VENDOR CHARACTERISTICS ASSOCIATED WITH MASSIVE DRUG PRICE INCREASES

9:00 **Bentley, Denise - PGY1 Pharmacy Practice**
Cookeville Regional Medical Center – Cookeville, TN
IMPACT OF A PHARMACY-DRIVEN PAIN MANAGEMENT SERVICE IN A COMMUNITY HOSPITAL

9:20 **Carver, Kenneth – PGY2 Health-Systems Pharmacy Administration**
HCA (Joint UT Institution) – Nashville, TN
USE OF REAL-TIME DECISION SUPPORT TO IDENTIFY OPPORTUNITIES FOR CLINICAL PHARMACIST INTERVENTION

9:40 **Cagle, Bradley – PGY1 Pharmacy Practice**
Cookeville Regional Medical Center – Cookeville, TN
CREATING REIMBURSEMENT PATHWAYS FOR INPATIENT MEDICATION THERAPY MANAGEMENT PHARMACY SERVICES

Room 215

8:20 **Munsch, Lindsey – PGY1 Pharmacy Practice**
Fort Sanders Regional Medical Center – Knoxville, TN
MEDICATION EDUCATION AND HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND SYSTEMS (HCAHPS) SCORES

8:40 **Stoltz, Mary (Molly) – PGY1 Pediatrics**
Le Bonheur Children's Hospital – Memphis, TN
EVALUATION OF VANCOMYCIN-ASSOCIATED NEPHROTOXICITY IN A FREESTANDING PEDIATRIC HOSPITAL

9:00 **Batchelder, Matthew – PGY1 Pharmacy Practice**
Fort Sanders Regional Medical Center – Knoxville, TN
EVALUATION OF PHARMACOKINETIC DOSING OF VANCOMYCIN AND AMINOGLYCOSIDES IN OBESE ADULT PATIENTS

9:20 **Behbahani, Yousef – PGY1 Pediatrics**
Le Bonheur Children's Hospital – Memphis, TN
VANCOMYCIN MINIMUM INHIBITORY CONCENTRATION (MIC) TRENDS IN CHILDREN WITH COAGULASE-NEGATIVE STAPHYLOCOCCAL (CONS) INFECTIONS

9:40 **Bland, Penelope – PGY1 Pharmacy Practice**
VAMC Memphis
FLUID BALANCE AS A PROGNOSTIC MARKER OF MORTALITY IN SEPTIC SHOCK

Friday, April 22
Session III

Room 219

8:20 **Crum, Emily – PGY1 Pharmacy Practice**
Henry County Medical Center – Dyersburg, TN
ANTIBIOTIC THERAPY FOR THE TREATMENT OF URINARY TRACT INFECTIONS IN A LONG TERM CARE FACILITY

8:40 **Hanson, Jessica – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
MOLECULAR EPIDEMIOLOGY OF ENTEROBACTER CLOACAE AT THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

9:00 **Monteen, Megan – PGY1 Pharmacy Practice**
Baptist Memorial Hospital - North Mississippi, Oxford, MS
READMISSION RATES FOR PATIENTS ADMITTED FOR ACUTE SKIN AND SKIN STRUCTURE INFECTIONS (ABSSSIS) IN A RURAL COMMUNITY HOSPITAL

9:20 **Parker, Stephanie – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
UTILIZATION OF ELECTRONIC NOTIFICATION TOOLS TO IMPROVE METABOLIC MONITORING OF VETERANS ON SECOND-GENERATION ANTIPSYCHOTICS

9:40 **Pippin, Ethan – PGY1 Pharmacy Practice**
University of Mississippi Medical Center – Jackson, MS
EXPLORING THE RISK FACTORS FOR COMMUNITY ACQUIRED CLOSTRIDIUM DIFFICILE AT THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

Room 308

8:20 **Dirvonas, Caitlin – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
THE PREVALENCE AND MANAGEMENT OF VITAMIN D INSUFFICIENCY AND DEFICIENCY IN VETERANS ADMITTED TO AN ACUTE INPATIENT PSYCHIATRIC UNIT

8:40 **Duncan, Samantha – PGY1 Pharmacy Practice**
Belmont University College of Pharmacy – Nashville, TN
PTSD SCREENING IN AN UNDERSERVED POPULATION IN A PRIMARY CARE SETTING

9:00 **Patel, Nilamben – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
UTILIZATION OF ALDOSTERONE ANTAGONISTS IN VETERANS WITH HEART FAILURE ON OPTIMAL HEART FAILURE THERAPY WITH REDUCED EJECTION FRACTION OF <= 35%: PART 2

9:20 **Jasper, Elizabeth – PGY1 Pharmacy Practice**
Belmont University College of Pharmacy – Nashville, TN
PHYSICAL COMPATIBILITY AND CHEMICAL STABILITY OF THE COMBINATION OF ZIPRASIDONE MESYLATE 20MG/ML WITH LORAZEPAM 2MG/ML

9:40 **Ulrich, Dagny – PGY1 Pharmacy Practice**
Methodist Le Bonheur Germantown Hospital – Memphis, TN
INCIDENCE OF NEPHROTOXICITY ASSOCIATED WITH VANCOMYCIN IN NON-ICU PNEUMONIA PATIENTS AND IDENTIFICATION OF CONTRIBUTING RISK FACTORS

Friday, April 22
Session III

Room 315

8:20 **Allen, Brooke – PGY1 Pharmacy Practice**
VAMC Memphis
DETERMINING THE EFFECTS OF A HEPATITIS C HEALTHCARE PROVIDER TEAM ON SUSTAINED VIROLOGIC RESPONSE RATES IN A VETERAN POPULATION

8:40 **Carter, Andrea – PGY1 Pharmacy Practice**
Regional One Health – Memphis, TN
OUTCOME ANALYSIS OF PREOPERATIVE USE OF CHEMICAL PROPHYLAXIS FOR VENOUS THROMBOEMBOLISM IN PATIENTS WITH TRAUMATIC SPINE FRACTURES

9:00 **Wassell, Katelyn – PGY1 Pharmacy Practice**
VAMC Memphis
COMPARISON OF HEMOGLOBIN A1C REDUCTION IN PATIENTS WITH TYPE II DIABETES MANAGED BY CLINICAL PHARMACISTS VERSUS PRIMARY CARE PROVIDERS

9:20 **Eberle, Hannah – PGY1 Pharmacy Practice**
Regional One Health – Memphis, TN
A COMPARISON OF NEPHROTOXICITY IN PATIENTS RECEIVING VANCOMYCIN ALONE VERSUS VANCOMYCIN AND PIPERACILLIN-TAZOBACTAM

9:40 **Ballard, Jennifer - PGY1 Pharmacy Practice**
G.V. (Sonny) Montgomery VA Medical Center – Jackson, MS
THE IMPACT OF PHARMACIST-BASED DISCHARGE MEDICATION RECONCILIATION AND EDUCATION ON READMISSION RATES FOR VETERANS WITH HEART FAILURE

Impact of variation in antithrombotic therapy post-primary percutaneous coronary intervention

Troy Watson, HCA/University of Tennessee, Nashville, Tennessee; Stephanie Thompson, Elizabeth B. McNeely; Shauna Graham, HCA, Nashville, Tennessee

Purpose: Associated mortality, morbidity and cost have been shown to increase with bleeding complications after a percutaneous coronary intervention (PCI). While playing an important role post-PCI, antithrombotic therapy is associated with this increased bleeding risk. The purpose of this large, multi-center retrospective study is to understand variations in post-primary PCI antithrombotic medication selection, and identify opportunities to optimize therapy based on PCI indication, patient risk factors and outcomes.

Methods: Adult patients who underwent PCI between July 1, 2014 and July 31, 2015 will be included in this study. Along with basic patient demographics, the following data related to antithrombotic therapy post-PCI will be collected: mortality, stent re-thrombosis, blood transfusions, comorbidities, length of hospital stay, utilization and variation in antithrombotic therapy. Data analyzed in this study will be collected from a centralized enterprise data warehouse. The electronic medical record system will be used to retrospectively review data from inpatient hospital facilities from a large health-system across the United States. All data will be recorded without patient identifiers and maintained confidentially. This study will be submitted to the Institutional Review Board for approval.

Results: Pending data analysis

Conclusion: Pending data analysis

Presentation Objective: Describe the impact of post-primary percutaneous coronary intervention antithrombotic medication selection

Self-Assessment Question:

Which of the following anticoagulant medication(s) are used most commonly for percutaneous coronary intervention?

a) Bivalirudin
b) Eptifbatide
c) Heparin
d) All of the above

“Looking under the Hood of Big Pharma” - Assessment of Pharmaceutical Vendor Characteristics associated with Massive Drug Price Increases

Authors' names: Bradley D Bruce and Marcus J Dortch
Affiliation: HealthTrust/University of Tennessee College of Pharmacy
Site: Brentwood, Tennessee

Background/Purpose
Massive drug price increases have been an industrywide phenomenon and they need to be examined. While momentous drug price increases have made news headliners and brought forth the attention of the federal government, little is known about the characteristics and financial metrics of the implicated pharmaceutical manufacturers. The purpose of this study is to examine the characteristics of pharmaceutical manufacturers known for triggering massive drug price increases.

Methodology
This retrospective observation study will assess pharmaceutical vendor’s financial performance metrics including: net income; earnings before interest, taxes, depreciation and amortization (EBITDA); and earnings per share (EPS) two quarters before and two quarters after profound price increase of FDA approved drugs. Vendors were selected based on associated index price increases from 2013 to 2015. Additional data to be collected will include company demographics, patent expirations, number of disruptions, and number of acquisitions or divestures. The primary objective is to asses differences in these variables before and after massive price increases. This study aims to be informative for pharmacy leadership and health care executives.

Results:
Results will be presented at the Mid-South Regional Pharmacy Conference.

Conclusions:
Conclusions will be presented at the Mid-South Regional Pharmacy Conference.

Presentation Objectives:

1. Describe characteristics of pharmaceutical manufactures with profound price increase

2. Explain the importance of monitoring drug prices and price changes

Self-Assessment Question:

1. The pharmacy director wants to know which factors affect drug price changes, the best answer would be:
    a. Drug price are affected by many variables including: drug shortages, contracts, utilization, and the number of related products in the market.
    b. Drug prices are affected by many variables including: active pharmaceutical ingredients (API), pipeline products, and patent life.
    c. Dug prices are static and only change if they become generic.
    d. A and B are both correct

Impact of a Pharmacy-Driven Pain Management Service In a Community Hospital

Denise Bentley, Jason Hutchens, and Pierce Alexander
Cookeville Regional Medical Center
Cookeville, TN

Background/Purpose: The American Pain Society recognized “pain as the fifth vital sign” to highlight the importance of adequate pain control. Several institutions found the implementation of a pain management pharmacist markedly elevates Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, produces substantial cost savings, and reduces adverse events. Our purpose is to develop a pharmacy-driven pain management service to improve outcomes while maintaining patient efficacy within Cookeville Regional Medical Center.

Methodology: Through the use of a pharmacy-driven protocol, physicians will have the option to consult pharmacy to manage analgesia per policy. The pharmacist will evaluate criteria such as age, comorbidities, prior pain medication dosing/history, baseline chronic pain medication requirements (if any), sedation scale, pain scale, and any other patient-specific applicable variables. The pharmacist will then order or modify existing therapy related to pain management including but not limited to: narcotic and non-narcotic analgesic agents, addition or discontinuation of agents, IV to PO conversion, and tapering of therapy. Patients and/or family will receive education by the pharmacist regarding adverse drug reactions, opiate tolerance and dependence, and any other pertinent counseling points. The pharmacist will also be responsible for the management of adverse effects such as bowel dysfunction, pruritis, nausea/vomiting, and opiate reversal. Collaboration between the pharmacist and physician is encouraged as needed for any changes or questions about therapy.

Results: Results are pending. Data is currently being collected regarding naloxone use, number of falls, adverse effects, length of stay, pain score and HCAHPS scores in order to measure benefit of the new service.

Conclusions: In conclusion, preparation has been made to ensure successful implementation of a pharmacist-driven pain management service. The future clinical implications of the service are readily apparent.

Presentation Objective: The objective is to describe implementation of a pharmacist-driven pain management service in a community hospital and the potential impact on patient care.

Self-Assessment Question: What are the potential implications of a pharmacist-driven discharge counseling service?

Use of real-time decision support to identify opportunities for clinical pharmacist intervention

Kenneth Carver; Joan Kramer; Mandelin Cooper; Ty Elders; Risa Rahm; Kate Nolte; Hayley Burgess

Background/Purpose:

In an effort to improve patient safety and streamline pharmacist workflow, Hospital Corporation of America (HCA) implemented a Real-Time Clinical Surveillance Tool (RTCST) in hospitals throughout the country. The RTCST provides pharmacists with activations for potential interventions. Patient-centric data has been integrated from various systems within each hospital into an easy-to-use interface allowing pharmacists to work more efficiently

The purpose of this study was to evaluate whether time between alert activation and pharmacist intervention, as generated by the RTCST, can identify additional opportunities for clinical pharmacist intervention and correlate with drug spend.

Methodology:

This retrospective data review received approval from the University of Tennessee Health Science Center Institutional Review Board. RTCST alert data generated by 149 hospitals from May 1 - October 31, 2015 was organized by region, facility, and date. Alert data related to IV-to-PO conversions were identified and compiled for evaluation. For each patient with a corresponding IV-to-PO alert, bar-code medication administration (BCMA) data was evaluated to determine the number of doses that were administered within multiple pre-specified time frames. This administration data was then used to evaluate actual drug costs and opportunity costs associated with the time in which the patient was converted from intravenous to oral therapy.

Results:

Based on the pre-specified date range of May 1 – October 31, 2015, a total of 166,686 patients were included. A total of 260,829 IV-to-PO conversion alerts for 31 different medications were subsequently included for analysis. Data analysis is ongoing and final results will be presented.

Conclusions:

N/A

Presentation Objective:

Employ a structured, analytical method to data surrounding clinical surveillance tools

Self-Assessment Question:

What were the top 3 medications associated with IV-to-PO conversion alerts?

Creating Reimbursement Pathways for Inpatient Medication Therapy Management Pharmacy Services

Brad Cagle, Casey White, Leah Ingram, and Micah Cost
Cookeville Regional Medical Center
Cookeville, TN

Background/Purpose: Pharmacists in the inpatient setting are independent in managing medication therapy through physician consults and medical staff approved protocols. State and proposed federal legislation are calling upon pharmacists to manage medication therapy through collaborative practice agreements and attainment of provider status. Reimbursement is key for sustainability in providing these roles. The aims for this project are to measure overall impact of providing face-to-face pharmacist interventions, create reimbursement pathways for pharmacy driven inpatient medication therapy management services, and develop a model that translates between different institutions.

Methodology: A literature review was performed to determine prior models for reimbursement of inpatient medication therapy management services. A proposal was developed and presented to pharmacy, billing, and finance departments, as well as medical center administration. The finance department will evaluate and recommend billing and reimbursement cost breakdowns. This is based upon the levels of complexity described in the literature and Center for Medicare and Medicaid Services guideline for medication therapy management services. Pharmacist interventions and formal consults are documented electronically with an attestation to a face-to-face visit with the patient. The institution billing department will assign coding for the documentation and bill third-party payers. The following will be measured: number of clinical consults, total eligible billable consults, number of consults billed, billable consults reimbursed, breakdown of time spent providing services (assessment, visit, documentation, writing orders), and barriers to implementation.

Results: Results are pending. Data will be collected within one year of implementation of the program to assess the patient quality metrics and return on investment.

Conclusions: In conclusion, preparation has been made to ensure successful implementation of a reimbursement pathway for inpatient pharmacist medication therapy management. The future clinical and business implications of the service warrant serious consideration.

Presentation Objective: The objective is to describe implementation of a reimbursement pathway for inpatient pharmacy medication therapy management service and barriers involved with the implementation.

Self-Assessment Question: How can additional revenue be justified and generated for inpatient pharmacist led care in medication therapy management?

Medication education and Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores

Lindsey Munsch, Traci Gilliland, Christopher Norris
Fort Sanders Regional Medical Center
Knoxville, TN

Purpose: Medication education within the hospital setting lacks standardization. Studies estimate that less than half of patients at hospital discharge are able to recall their medications—even less are able to identify the purpose or indication. The Centers for Medicare and Medicaid Services (CMS) measures medication education through Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Surveys, making effective patient education crucial for hospital reimbursement. A new rotation for pharmacy students was created to provide medication education and improve HCAHPS scores on targeted floors at a large community hospital.

Methodology: Prospective analysis of HCAHPS scores on targeted intervention floors. Hospital units with low HCAHPS scores were identified through 2014 data. Selected patients received medication education on high-risk medications as identified by hospital policy. A second patient group received medication education on all current medications and received a 24-48 hour follow-up to assess medication recall. Patients received pharmacy intervention in addition to nursing staff medication education.

A standardized medication education process was created and taught to students performing counseling. The rotation was assessed through student evaluations and an exam was administered to measure student competency.

Preliminary results: After 2 months of intervention, a visible decline in HCAHPS scores was noted on high-risk only floors. Due to this decline, management desired to change one of the high-risk only floors to another all-medication floor. Medication recall follow-up was changed to a 24-hour window due to loss of patients to follow-up at 48 hours. Variations in HCAHPS scores persist, but a general trend of improvement was witnessed in HCAHPS scores with all-medication counseling.

Conclusions: Medication education on all-medications within the hospital as performed by pharmacy students may help to improve HCAHPS scores. Students gain competency and confidence through interactions on the medication education rotation.

Presentation Objective: Review the importance of HCAHPS scores and examine the effectiveness of pharmacy students performing medication education to improve HCAHPS scores.

Self-Assessment Question: HCAHPS scores will comprise what % weight of the total performance score for FY 2016?

Evaluation of vancomycin-associated nephrotoxicity in a freestanding pediatric hospital

Stoltz M, Lee KR, Chhim R, Arnold SL, Bagga B, Shelton CM
The University of Tennessee Health Science Center and Le Bonheur Children's Hospital
Memphis, TN

Background/Purpose: Rising inhibitory concentrations among staphylococcal isolates and reports of vancomycin treatment failure in adults has led to higher targets for vancomycin trough levels and doses according to the Infectious Diseases Society of America guidelines. Current recommendations include dosing regimens of 60 mg/kg/day to target a trough concentration of 10-20 mg/L. The need for higher doses to achieve these levels raises concern for greater nephrotoxicity risk and warrants evaluation. The purpose of the study was to evaluate the incidence of and identify risk factors for vancomycin-associated nephrotoxicity in a pediatric population.

Methodology: This study is a single center, retrospective chart review of patients admitted to Le Bonheur Children's Hospital between November 1, 2011 and December 31, 2014 who received vancomycin. Patients were included in analysis if they were between 1 month and 18 years of age, had multiple serum creatinine (SCr) levels measured, and received vancomycin dosed 15 mg/kg every 6 to 8 hours. Patients were excluded if they had history of dialysis, or an underlying condition leading to muscle atrophy making creatinine an inaccurate measure of renal function. The primary outcome of the study was the development of vancomycin-associated nephrotoxicity defined as SCr increase of 0.5 mg/dl or 50% from baseline. Data were also collected on potential risk factors for nephrotoxicity including concomitant nephrotoxic medications, ICU admission, dehydration, initial vancomycin dose, duration of therapy, and vancomycin trough levels.

Results: A total of 2389 patients received vancomycin and 289 were included in analysis. The patient population had an overall mean age and weight of 4.4 ± 4.9 years and 18.7 ± 15.9 kg, respectively, and included 162 (55%) males. Of 289 patients, 181 (62%) received concomitant nephrotoxic medications and 11 (4%) experienced nephrotoxicity. Neonatal ICU patients have not been analyzed to date.

Conclusions: To be presented.

Presentation Objective:
Identify risk factors of vancomycin-associated nephrotoxicity.

Self-Assessment Question:
What are some risk factors that may contribute to nephrotoxicity in pediatric patients receiving vancomycin therapy that might necessitate more vigilant monitoring guidelines?

Evaluation of pharmacokinetic dosing of vancomycin and aminoglycosides in obese adult patients

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Purpose:
Pharmacokinetic dosing of vancomycin and aminoglycosides in obese patients remains a challenge. Few studies have defined kinetic parameters in this population. Altered volumes of distribution and drug clearance compared to non-obese patients have been identified. A need remains to define population based parameters to guide dosing. A retrospective analysis conducted in October 2015, indicated that 46% of patients receiving vancomycin and aminoglycosides in our institution met the criteria for obesity (body mass index (BMI) > 30 kg/m^2) and recommended serum trough concentrations based on source of infection were frequently not achieved with the first dosing regimen.

Methodology:
Hospitalized patients with a BMI > 30 kg/m^2 who have received pharmacokinetically adjusted vancomycin and aminoglycosides will be identified and stratified according to obesity class. Age, weight, gender, blood urea nitrogen (BUN), serum creatinine and serum drug concentration levels will be collected. Initial pharmacokinetic parameters will be calculated to include elimination rate constant (ke), half-life (t ½), volume of distribution (Vd), and estimated creatinine clearance using published recommendations. The effectiveness of achieving target trough levels with the first dosing regimen will be evaluated. Patient specific parameters will be calculated based on measured serum drug concentration data. Initial calculations will be compared to patient specific ones and evaluated for variance.

Preliminary Results: Two months of retrospective analysis indicated that target serum concentrations, prior to the third dose, were achieved in 30% of patients in the class I obesity group, 38% in the class II obesity group, and 41% in the class III obesity group. The most common indication was pneumonia (42%) with target vancomycin trough concentrations of 15-20 µg/mL and aminoglycoside peak concentrations between 7-9 µg/mL for gentamicin & tobramycin and 20-35 µg/mL for amikacin.

Conclusions: pending

Presentation Objective:
To evaluate the effectiveness of empiric dosing in obese subjects, stratified by obesity class, and compare those to non-obese subjects.

Self-Assessment Question:
Should non-obese population based parameters be used to calculate pharmacokinetic parameters and dosing requirements in obese patients?

Vancomycin Minimum Inhibitory Concentration (MIC) Trends in Children with Coagulase-Negative Staphylococcal (CoNS) Infections

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Background/Purpose: CoNS is an important cause of infection in select hospitalized patients, including, but not limited to, neonates, infants, and patients with intravascular catheters and other indwelling devices. In the neonatal intensive care unit (NICU) population, CoNS is responsible for 50% of nosocomial infections, and 75% of bloodstream infections. Increased vancomycin use has led to concern for increase in the minimum inhibitory concentrations (MICs) of vancomycin for CoNS. Adult literature reports increasing vancomycin MICs with *S. aureus* infections, particularly methicillin-resistant *Staphylococcus aureus* (MRSA). MRSA infections with higher vancomycin MICs are associated with worse clinical outcomes and treatment failure. It's unclear if this occurs with CoNS infections. There is limited data evaluating CoNS susceptibility trends and differences in clinical outcomes in pediatric patients with higher vancomycin MICs (> 2 mcg/ml) for CoNS. This study evaluates vancomycin MIC trends for CoNS infections in children and examines the association of vancomycin MICs with treatment failure and vancomycin days.

Methodology: This is a single center, IRB approved, retrospective chart review of 567 blood culture positive instances of CoNS in children ≤ 18 years of age admitted to Le Bonheur Children's Hospital between June 1, 2010 and April 30, 2015. Patients were excluded if they had a polymicrobial infection, antibiotics were not given for CoNS bacteremia, or vancomycin MIC was not reported. Vancomycin susceptibility, dosing, duration, frequency, and troughs (if obtained) were recorded on all patients with CoNS isolated from blood cultures. Additional clinical data such as patient demographics, maximum temperature, need for mechanical ventilation, 30-day mortality were collected. White blood cell count and C - reactive protein were recorded at treatment initiation and completion when available.

Results: Pending

Conclusions: Pending

Presentation Objective: To discuss the vancomycin MIC trends for CoNS bloodstream infections, and describe their association with treatment failure and total vancomycin days

Self-Assessment Question: Which of these patient populations is not at high risk of a CoNS infection?

a) Neonates
b) Patients with indwelling catheters
c) Implanted Cardioverter Devices
d) Patients with a peripheral IV

Fluid Balance as a Prognostic Marker of Mortality in Septic Shock

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Memphis, Tennessee

Background/Purpose: Severe sepsis and septic shock are common diagnoses in the intensive care unit frequently characterized by hypoperfusion as a result of decreased functional intravascular volume. This can lead to end organ dysfunction and death with mortality rates up to 50%. In order to maintain intravascular volume and tissue perfusion, aggressive administration of intravenous fluids is the standard of care. Recently this methodology has been under further investigation as patients with excess fluid administration become more susceptible to peripheral and pulmonary edema, respiratory failure, and increased cardiac demand. In light of the uncertainty surrounding the ideal amount of fluid to administer to patients, the primary objective of this study is to evaluate the association of fluid balance and mortality in patients with septic shock.

Methods: This study was a retrospective observational analysis of patients admitted to the Medical Intensive Care Unit at the Memphis Veterans Affairs Medical Center (VAMC) with ICD-9 codes of sepsis, severe sepsis, or septic shock who also received vasopressors. Baseline data was collected and APACHE II and SOFA scores were calculated at the time of ICU admission. Daily fluid balances for 7 days after initiation of resuscitation was compared to the incidence of 3 day mortality, 7 day mortality, ICU length of stay, and hospital length of stay.

Results: Pending

Conclusion: Pending results

Presentation Objective: To evaluate the predictive power of fluid balance as it relates to mortality in septic patients receiving vasopressor therapy.

Self-Assessment Question: Is there a correlation between positive fluid balance and mortality in a veteran population?

Title: Antibiotic therapy for the treatment of urinary tract infections in a long term care facility

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Paris, Tennessee

Background/Purpose: The use of antibiotic therapy in long-term care (LTC) facility patients for urinary tract infections (UTI) is a growing concern for antibiotic resistance. Up to 70% of long-term care facilities' residents receive an antibiotic each year. The estimates on the cost of antibiotics in the long term care setting range from $38 million to $137 million per year. Recent guideline updates have changed the treatment options. The purpose of this study is to examine the appropriateness of treatment given to the patient based upon the diagnosis of a UTI.

Methodology: A retrospective study review will be conducted on patients that were admitted to the LTC facility or skilled nursing facility from 2013 to present and had a clinical diagnosis of UTI. Based upon the current Infectious Disease Society of America (IDSA) guidelines, this study will look at the following: was a culture and sensitivity done, which microorganism, if any, was present, the timing from culture and sensitivity to the start of antibiotic therapy, did the choice of antibiotic therapy match the sensitivity report, and was the duration of antibiotic(s) therapy appropriate. The primary objective will be to compare the use of empiric antibiotic therapy with the correct diagnosis of a UTI per IDSA guidelines. Pertinent secondary objectives include: therapy narrowed and/or modified appropriately based upon culture and sensitivity results, was the length of antibiotic(s) therapy appropriate and/or was the therapy discontinued early due to adverse events. Patients that will be excluded are those with catheters at the time of diagnosis of UTI, genitourinary surgery within the previous 6 months, or poor documentation.

Results: Pending

Conclusion: Pending

Presentation Objective: To determine if the appropriate antibiotic(s) and treatment duration were implemented for the long term care patients given the culture and sensitivity

Self-Assessment Question: What is the optimal treatment plan for acute pyelonephritis in long term care patients per the IDSA guidelines?

Molecular Epidemiology of *Enterobacter cloacae* at the University of Mississippi Medical Center

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Jackson, MS

Background/Purpose: Carbapenemase-producing Enterobacteriaceae pose an urgent threat to the global health-system. These plasmid-mediated enzymes are capable of hydrolyzing all known beta-lactam antimicrobials. Multiple carbapenemases circulate globally, with the *Klebsiella pneumoniae* carbapenemase (*kpc*) predominating. Recognition and early management of these organisms is imperative to minimizing spread throughout an institution or region. *K. pnuemoniae* represents the most common organism harboring these enzymes in the United States. Less is known production of Class A carbapenemases in Enterobacter cloacae. The purpose of this study is to elucidate the clonal relation and genetic basis of beta-lactam resistance in *Enterobacter cloacae* at the University of Mississippi Medical Center (UMMC).
Methodology: E. cloacae isolates were identified via Vitek II. Antimicrobial susceptibility testing was done using Etest according to manufacture protocol and interpreted in accordance with CLSI standards. Genomic DNA was extracted via QIAcube DNeasy kit. Polymerase chain reaction (PCR)-based carbapenemase screening was performed using KPC and NDM primers. Multilocus Sequence Typing (MLST) targeted seven housekeeping genes (Table 1). All amplicons were confirmed with gel electrophoresis and Sanger sequencing. CLUSTALW2 software was used for sequence alignment and phylogenetic analysis. Clonal relationships will be determined based on the allelic ST determination of each isolate.

Primers	Gene	Amplicon size (bp)
dnaA-F	dnaA	1000
dnaA-R		
fusA-F	fusA	900
fusA-R		
gyrB-F	gyrB	1000
gyrB-R		
leuS-F	leuS	845
leuS-R		
pyrG-F	pyrG	500
pyrG-R		
rplB-F	rplB	1000
rplB-R		
rpoB-F	rpoB	746
rpoB-R		

Results: Sixteen *Enterobacter cloacae* isolates were analyzed. Ertapenem MIC50 and MIC90 were 1 mcg/mL and 4 mcg/mL, respectively. *kpc*-2 was detected in all 16 isolates. All MLST gene targets were present across isolates.
Conclusions: *kpc*-2 is a common mechanism of resistance among Enterobacter cloacae at UMMC. Epidemiological studies, such as this, will allow the facility to better understand resistance within the hospital, identify potentially epidemic carbapenemase producing sequence types (ST), and implement aggressive education and infection control initiatives.
Presentation Objective Identify different mechanisms of carbapenem resistance.
Self-Assessment Question: What carbapenemase is most common among *E. cloacae* at UMMC?

READMISSION RATES FOR PATIENTS ADMITTED FOR ACUTE SKIN AND SKIN STRUCTURE INFECTIONS (ABSSSIs) IN A RURAL COMMUNITY HOSPITAL

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Background/Purpose

Hospital admissions for acute bacterial skin and skin structure infections (ABSSSIs) have been steadily increasing in the United States since the late 1990's. "Cellulitis" was the 10th highest admitting diagnosis for the 2015 fiscal year (September 1, 2014 to August 31, 2015) at Baptist Memorial Health Care Corporation (BMHCC), which consists of 14 hospitals and medical centers in Tennessee, Mississippi, and Arkansas. Despite the common admitting diagnosis, Centers for Medicare and Medicaid Services (CMS) reimbursement continues to fall below the total cost of care. Thus BMHCC is evaluating these patients to identify risk factors for readmission and develop strategies to prevent these admissions.

Methodology

This is a retrospective historical study that will review medical records of all patients with an ICD-9 or ICD-10 admitting diagnosis code for cellulitis at Baptist Memorial Hospital– North Mississippi (BMH-NM). Patients who meet the inclusion criteria will be included in reverse chronological order from the date of IRB approval until 100 patients have been selected. The primary objective of this study is to determine the 30 day readmission rate for ABSSSI at BMH-NM. The secondary objectives include identifying risk factors for 30 day readmission and determining the average hospital charge and hospital reimbursement rates for these patients.

Results

Pending

Conclusions

A pilot outpatient parenteral antimicrobial therapy (OPAT) program is being implemented at BMH-NM in an effort to prevent admission in certain patients for the treatment of ABSSSIs. The current 30 day readmission rate of a similar patient population admitted for treatment will stand as a reference when reviewing the effectiveness of the program.

Presentation Objective

The presentation objectives are to describe the readmission rates for ABSSSIs at BMH-NM and identify risk factors for readmission.

Self-Assessment Question

Which patient demographics were associated with 30 day readmission for ABSSSIs at BMH-NM?

Utilization of Electronic Notification Tools to Improve Metabolic Monitoring of Veterans on Second-Generation Antipsychotics

Stephanie Parker, Rachel Childers, Traci Dutton, R. Jill Pate, Jennifer Bean: VA Tennessee Valley Healthcare System; Murfreesboro, TN

Background/Purpose: The role for electronic notifications is increasing with the transition to electronic medical records and pharmacists can be utilized to complete this task. One tool to implore practitioners to increase antipsychotic metabolic monitoring is implementation of an electronic notification to the prescribers. Several studies have been performed evaluating the effectiveness of electronic notifications to prescribers. The Psychopharmacology Drug Safety Initiative (PDSI) was developed within Veteran's Affairs to increase the safety of psychotropic medication use in the Veteran population. This study will evaluate the utilization of this dashboard to identify Veterans needing fasting plasma glucose or hemoglobin A1c (HbA1c) monitoring, subsequently utilizing an electronic notification to providers and evaluating the outcomes of this notification method.

Methodology: This study is a single center, prospective, observational analysis. The PDSI dashboard identified Veterans taking a second-generation antipsychotic (SGA) who had not had HbA1c or fasting blood glucose monitored in the past year. The following data was collected: age, race, gender, location of mental health care, location of primary care, and duration of antipsychotic treatment. An electronic reminder was manually entered into each individual patient chart to alert both the primary care and mental health providers that glucose monitoring is warranted in the patient. After submission of the note, data was manually extracted to determine provider response.

Results: Pending; The PDSI dashboard identified 456 patients at VA TVHS that were on a SGA who had not received appropriate metabolic monitoring in the past year; 226 patients met our inclusion criteria. Outcomes evaluated include time to follow-up on the electronic reminder, whether the Veteran's primary care provider or mental health provider responds to the electronic reminder, and number of missed opportunities for monitoring (i.e. no shows, cancellations, pending laboratory values in the past year).

Conclusions: Pending

Presentation Objective: To assess the utilization of electronic notifications as a reminder system for providers.

Self-Assessment Question: How do missed opportunities (no-shows, cancellations, etc.) impact the prevalence of metabolic monitoring in the Veteran population?

Exploring the risk factors for community acquired Clostridium difficile at the University of Mississippi Medical Center

Authors
Ethan Pippin, Allison Bell, University of Mississippi Medical Center, University of Mississippi School of Pharmacy, Jackson, Mississippi

Background/Purpose

Clostridium difficile has become a major source for infectious diarrhea in hospitalized patients. Studies have indicated that the incidence, degree of severity, and recurrence of Clostridium difficile infection (CDI) has increased with time. However, CDI diarrhea is becoming increasing prevalent in the community setting. Community acquired CDI is being diagnosed in populations that have traditionally been considered low risk for CDI, such as younger patients that have no recent hospital or antibiotic exposure. The purpose of this project is to determine what potential risk factors for community acquired CDI our patient population possesses at the University of Mississippi Center.

Methodology

This retrospective chart review consists of patients admitted to the University of Mississippi Medical Center from September 1, 2012 through August 31, 2015 with a diagnosis of community acquired CDI. The data collected from the study group will include medications on admission, current disease states, and demographic information. This data will then be compared to a control group of randomly selected patients that have been admitted to the University of Mississippi Medical Center during the previously mentioned time period. Statistical analysis will then be used to determine if there are any major differences between medications on admission and/or disease states between the two groups.

Results

Pending

Conclusions

Pending

Presentation Objective

Distinguish risk factors that are associated with community acquired *Clostridium difficile*

Self-Assessment Question

Which of the following disease state(s) are associated with an increased chance of acquiring community acquired *Clostridium difficile*?

The prevalence and management of vitamin D insufficiency and deficiency in veterans admitted to an acute inpatient psychiatric unit

Caitlin Dirvonas, Jennifer Easterling, and Jennifer Bean. VA Tennessee Valley Healthcare System. Nashville, TN.

Background/Purpose Studies in Europe, New Zealand, and the United States have found a high percentage of psychiatric inpatients to be vitamin D insufficient and/or deficient. Because low vitamin status has been linked to conditions beyond bone health including cardiovascular disease, diabetes, cancer, multiple sclerosis, cognition, chronic pain and other disorders, there is value in assessing and treating those who may be at risk for deficiency who suffer from a concomitant mental health disorder. This study will investigate the prevalence, treatment and post-discharge management of vitamin D deficiency and insufficiency in a mental health population.

Methodology This will be a single-center, retrospective, observational study of adult patients admitted to the acute psychiatric units of the VA Tennessee Valley Healthcare System (TVHS) from January 1, 2015 through June 30, 2015. For the purpose of this study, vitamin D levels will be classified as deficient or insufficient according to the Endocrine Society's definitions: deficient – 25(OH)D levels <20ng/mL; insufficient – 25(OH)D levels 21-29ng/mL. Further assessment will include whether patients found to have low levels are initiated on supplementation, whether a subsequent level is drawn, and what type of provider is providing follow-up.

Results Preliminary results show that out of 747 admissions 43.5% of patients had a 25(OH)D level drawn. Of those, 34.4% had deficient levels, 37.8% had insufficient levels, and 31.4% had follow-up levels drawn. Further results are pending.

Conclusions The estimated prevalence of vitamin D insufficiency and/or deficiency on the acute psychiatric units at TVHS was found to be high, with greater than 70% of patients being classified as either insufficient or deficient. The percentage of those considered to be solely deficient, is similar to previously reported national averages for the general US population.

Presentation Objective Evaluate the prevalence and management of vitamin D insufficiency and deficiency on an acute psychiatric unit.

Self-Assessment Question Acute psychiatric patients with suboptimal vitamin D levels are initiated on supplementation what percentage of the time?

A. Less than 25%
B. 25-50%
C. 50-75%
D. 100%

Title: PTSD screening in an underserved population in a primary care setting

Authors: Samantha Duncan[a], Rebecca Swift[b], Cathy Ficzere[a], Michael McGuire[a], Elisa Greene[a]

[a]Belmont University College of Pharmacy, [b]Siloam Family Health Center; Nashville, TN

Background/Purpose: Post-traumatic stress disorder (PTSD) is under-recognized in the primary care setting and is often misdiagnosed or mismanaged. Limited data exists regarding the incidence of PTSD in this setting among urban, underserved minority populations at a high risk of PTSD. Determining the prevalence of PTSD in these patients may shed light on the value of a targeted, systematic screening approach for PTSD. The purpose of the study is to determine how well the Primary Care PTSD Screen (PC-PTSD) tool correlates with subsequent diagnosis of PTSD using the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in this population and to identify any variables that interfere with accuracy of the screening tool.

Methodology: This study is a cross-sectional cohort study aims to assess the use of PTSD screening tools among uninsured, high-risk patients in the primary care setting. The study evaluates the positive predictive value of a positive result on the PC-PTSD and subsequent diagnosis of PTSD. Participants were given the PC-PTSD form when they presented to the clinic for an appointment. Patients who scored positive were referred for follow-up care per clinic protocol. Additional demographic data and comorbidities were collected from the participants' electronic medical records. Data was collected during November-December 2015.

Results: A total of 253 patients were screened with the PC-PTSD tool. Most participants screened were Spanish-speaking females. A total of 22 patients had a positive screen, and ten of these patients received a subsequent diagnosis of PTSD. A more formal statistical analysis is pending.

Conclusions: Our data suggests that the PC-PTSD tool is a reasonable option for screening high-risk patients in this setting. Providers should be aware of variables that may impact the accuracy of the tool. Statistical analysis will provide further information regarding the utility of this global screening approach.

Presentation Objective: Describe the role of a global screening approach using the PC-PTSD in a high-risk population.

Self-Assessment Question: What variables appear to impact the accuracy of the PC-PTSD screening tool?

Utilization of Aldosterone Antagonists in Veterans with Heart Failure on Optimal Heart Failure Therapy with Reduced Ejection Fraction of ≤ 35%: Part 2

Authors: Nilamben Patel, Shawn McFarland, Jeremy Walley, Jessica Wallace: VA Tennessee Valley Healthcare System; Murfreesboro, TN and Nashville, TN

Background/Purpose: Based on the 2013 ACCF/AHA HF guidelines, patients with NYHA class II-IV with an ejection fraction (EF) of 35% or less should receive aldosterone antagonist therapy. Despite this recommendation, many patients indicated for therapy with symptomatic HF are not initiated on aldosterone antagonists. Those patients that are started on therapy, they are not always appropriately monitored per guideline recommendations. Guidelines recommend baseline monitoring of renal function and potassium with close initial follow-up after initiation. The primary objective of this study was to evaluate if aldosterone antagonists are appropriately utilized in addition to optimal heart failure therapy in the setting of NYHA Class II or above with EF 35% or less. The secondary objectives were to assess if patients that are initiated on these agents were properly monitored. If monitored, the mean time to monitoring of SCr and potassium was assessed. The incidence of hyperkalemia also was evaluated for patients initiated on therapy.

Methodology: This retrospective observational analysis study from July 2013-July 2015 aimed to assess whether HF patients with EF 35% or less on ACE inhibitors and beta-blockers are receiving aldosterone antagonists if indicated. If initiated, assessed whether patients are appropriately monitored on therapy. Monitoring of SCr and potassium from initiation of therapy within 7, 14, 30, 60, and 90 as well as incidence of hyperkalemia within 30 days of initiation was evaluated. A sample size of 350 patients was calculated given prior studies to achieve an 80% power with a two-sided alpha of 0.05.

Results: Currently in process of data collection

Conclusions: Pending

Presentation Objective: To assess the utilization of aldosterone antagonists in HF patients with EF < 35% or less on ACE inhibitors and beta-blockers.

Self-Assessment Question: Following initiation of aldosterone antagonist therapy, how often are patients appropriately monitored per ACCF/AHA HF guideline recommendations?

A. 75-100%
B. 50-75%
C. 25-50%
D. 0-25%

Abstract

Title: Physical compatibility and chemical stability of the combination of ziprasidone mesylate 20mg/mL with lorazepam 2mg/mL.

Authors: Elizabeth Jasper[1], Parker Tumlin[2], J. Michael McGuire[1], Elisa Greene[1], Steven Burghart[3], Thom Spence[2], Andrew Webster[1]. Affiliations: 1. Belmont University College of Pharmacy; 2. Belmont University College of Sciences and Mathematics; 3. Rolling Hills Hospital

Background/Purpose: Acute agitation in patients with schizophrenia may be treated with an oral or intramuscular antipsychotic, alone or in combination with a rapid-acting benzodiazepine, according to the 2009 Schizophrenia Patient Outcomes Research Team (PORT) Psychopharmacological Treatment Recommendations and Summary Statements. The objective of this investigation was to determine if the rapid-acting injectable atypical antipsychotic, ziprasidone mesylate 20mg/mL, and the benzodiazepine, lorazepam 2mg/mL, were physically compatible and chemically stable for co-administration in a single syringe.

Methodology: Samples were prepared by adding 1mL of reconstituted ziprasidone mesylate 20mg/mL for injection to 1mL of lorazepam injection 2mg/mL. All evaluations were performed on triplicate samples. The physical compatibility of each mixed sample was determined by visual assessment of clarity and by nephelometer. The drug concentration in each sample was analyzed by high performance liquid chromatography (HPLC). The chemical compatibility of the mixture was assessed by determining the concentration of each drug product in mixed samples stored at room temperature at time 0, at 2 hours, and 4 hours. Samples retaining over 90% of each of the drugs in the mixture were considered chemically stable.

Results: Upon mixing, ziprasidone mesylate and lorazepam injection solutions visually appeared to form a biphasic solution. Upon multiple inversions, minimum 3 times, no visible precipitates were observed in any drug mixture samples. Percent recovery of ziprasidone was calculated for all drug mixture samples. No sample retained at least 90% of the expected concentration of ziprasidone.

Conclusion: Ziprasidone mesylate and lorazepam are not physically compatible in syringe. Further study may be warranted.

Presentation Objective: Evaluate data to determine the physical compatibility of ziprasidone mesylate and lorazepam in syringe.

Self-Assessment Question: Are ziprasidone mesylate and lorazepam compatible in syringe?

Incidence of nephrotoxicity associated with vancomycin in non-ICU pneumonia patients and identification of contributing risk factors.

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Background/Purpose: Vancomycin-induced nephrotoxicity is a well documented potential side effect defined as a change in measured serum creatinine of 0.5 mg/L or a 50% increase. Reported incidence varies from 5-43% depending on patient population and definition of risk factors. The primary objective of this study is to determine the incidence and risk factors associated with vancomycin-induced nephrotoxicity in non-ICU pneumonia patients. Secondary objectives include assessment of time to AKI or nephrotoxicity, rate of recovery, length of stay (LOS) and 30-day readmission rates.

Methodology: A retrospective chart review was performed on patients treated for pneumonia between July 2014 and July 2015, with inclusion criteria of at least 48 hours of vancomycin treatment, at least one trough level, and follow up for at least 5 days after initial dose. Categorical data and continuous data were evaluated with Fisher's exact test and t–tests, respectively. Statistical significance was defined as $p < 0.05$.

Results: 1024 patients were pre-screened based on pneumonia diagnosis and vancomycin level. Of these, chart review was completed on 702 patients, with 141 included. In the 47 patients (33.3%) with nephrotoxicity, 20 recovered to normal kidney function before death or discharge. A trough level of ≥ 15 mg/L was associated with nephrotoxicity ($p=0.030$), and the average trough level was significantly higher in the nephrotoxicity group (20 vs 16.3 mg/L, $p=0.006$). Average time to onset of nephrotoxicity was 5.9 days. LOS was significantly higher in the nephrotoxicity group (14 days versus 11.8 days, $p=0.016$), however, 30-day readmissions were not significantly different.

Conclusions: Trough levels of 15 mg/L or higher were associated with nephrotoxicity. The overall rate of nephrotoxicity of 33.3% is within the range reported previously in the literature. No other individual risk factors (co-morbidities or nephrotoxic drugs) were identified.

Presentation Objective: Determine the risk factors for nephrotoxicity in non-ICU pneumonia patients treated with vancomycin.

Self-Assessment question: Based on the results of this study, what are potential risk factors for nephrotoxicity in non-ICU pneumonia patients treated with vancomycin?

Determining the Effects of a Hepatitis C Healthcare Provider Team on Sustained Virologic Response Rates in a Veteran Population

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Background/Purpose: Considered to be the most common chronic blood-borne infection, chronic hepatitis C virus (HCV) affects approximately 3 million Americans. Once chronic HCV ensues, HCV patients are at risk of developing cirrhosis, end stage liver disease (ESLD), and hepatocellular carcinoma (HCC). Although treatment can prevent the progression of liver damage, initiating appropriate antiviral therapy can be complex since HCV has a high degree of genetic variability and therapy requires 100% adherence with frequent follow-up to prevent failure. With such diversity and need for compliance, reaching the primary target of sustained virologic response (SVR), known as clinical "cure", can be difficult. To achieve this goal, collaboration amongst hepatitis C specialists, such as physicians, nurse practitioners, and pharmacists, is needed to enhance the probability of reaching SVR. Few studies have been done to show SVR rates achieved with treatment from a hepatitis C healthcare team with standard treatment and newer antiviral agents. The purpose of this study is to assess SVR rates obtained under a hepatitis C healthcare provider team in patients at the Memphis Veterans Affairs Medical Center (VAMC).

Methodology: This study is a retrospective single-site analysis of computerized medical records of Veterans receiving hepatitis C treatment from a hepatitis C healthcare provider team. The records for patients receiving care under this specialty team will be reviewed to assess SVR rates achieved 12 weeks after completion of antiviral therapy. Recommended baseline monitoring includes genotype, subtype, complete blood count (CBC), comprehensive metabolic panel (CMP), cirrhosis diagnosis, liver transplant history, and viral load (VL). Assessment of follow-up monitoring will include documentation of CBC and VL. Additional data for evaluation includes demographics, adverse effects due to antiviral therapy, compliance, antiviral regimen, duration, and prior antiviral therapy.

Results: Pending

Conclusion: Pending

Presentation Objective: To determine 12 week SVR rates for patients under a HCV healthcare provider team in comparison to clinical trial SVR rates.

Self-Assessment Question: Is treatment of HCV at the VAMC comparable to treatment in clinical trials?

Outcome Analysis of Preoperative Use of Chemical Prophylaxis for Venous Thromboembolism in Patients with Traumatic Spine Fractures

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Background/Purpose: Patients suffering from traumatic spine injuries have one of the highest risks of venous thromboembolic events (VTE) of all trauma patients. Because these events are a significant cause of morbidity and mortality, literature supports the use of chemical VTE prophylaxis unless the risk of bleeding is believed to outweigh the risk reduction for VTE. At our institution, some surgeons prescribe chemical VTE prophylaxis preoperatively in patients undergoing spinal fixation. Others believe that use of chemical VTE prophylaxis in the preoperative period may increase the patient's risk of epidural hematomas and wound complications and, therefore, withhold use of these agents preoperatively. The purpose of this study is to compare the incidence of VTE and bleeding complications that occur in patients who receive preoperative chemical VTE prophylaxis to those patients who receive no preoperative prophylaxis for traumatic spinal fixation.

Methodology: All trauma patients presenting to Elvis Presley Memorial Trauma Center at Regional One Health between March 18, 2010, and July 13, 2015, with spine fractures requiring surgical fixation were eligible for the study. Patients with length of stay less than 48 hours or an associated spinal cord injury were excluded. Rates of VTE and bleeding complications requiring reoperation in patients who received chemical prophylaxis within 24 hours of operation will be compared to event rates in patients who received no prophylaxis prior to operation.

Results: Pending

Conclusions: Pending

Presentation Objective: Discuss the benefit and risk of the preoperative use of chemical prophylaxis in trauma patients with spine fractures requiring surgical fixation.

Self-Assessment Question: What factors should be considered when initiating preoperative chemical VTE prophylaxis prior to surgical spinal fixation in trauma patients?

Comparison of Hemoglobin A1c Reduction in Patients with Type II Diabetes Managed by Clinical Pharmacists versus Primary Care Providers

Katelyn Wassell, Joshua Sullivan, Bryan Paul Jett, Jeff Zuber
VA Medical Center- Memphis, Tennessee

Background: Diabetes mellitus type II is a chronic disease that affects approximately 29 million Americans. The disease is characterized by consistently high blood glucose levels as result of the body's inability to produce or respond to insulin. Control of diabetes can be evaluated using hemoglobin A1c values, which correspond to an estimated average glucose level over 3 months. The American Diabetes Association recommends treating type II diabetes mellitus to a goal A1c of <7% for most patients. Clinical pharmacists are a valuable resource in the management of diabetes and provide additional access for patients in a rural setting. Previous studies have demonstrated improvements in A1c for patients managed by a clinical pharmacist. The purpose of this study is to compare changes in A1c for patients managed by clinical pharmacists to that of PCP managed patients in a rural setting.

Methodology: This study is a retrospective analysis of computerized medical records of Veterans diagnosed with type II diabetes with an A1c >8%, receiving treatment at a rural community-based outpatient clinic affiliated with the VAMC Memphis. Propensity score matching was used to create a 1:1 matched cohort of patients managed by a PCP or clinical pharmacist. The primary outcome was reduction in hemoglobin A1c. Secondary outcomes included changes in clinical markers such as total cholesterol, LDL, and triglycerides, reduction in systolic blood pressure, and weight reduction.

Results: pending

Conclusions: pending

Presentation Objective: To determine if clinical pharmacist intervention leads to greater reductions in hemoglobin A1c values.

Self-Assessment Question: What is the goal A1c for type II diabetes mellitus according to the American Diabetes Association, and when is it appropriate to aim for a more or less stringent goal?

A comparison of nephrotoxicity in patients receiving vancomycin alone versus vancomycin and piperacillin-tazobactam

Hannah Eberle, Maegan Rogers, Marilyn Lee, Sara Cross
Regional One Health
Memphis, TN

Background/Purpose: Vancomycin and piperacillin-tazobactam are two antibiotics commonly used for broad spectrum antimicrobial coverage. Recent retrospective studies have identified an increase in acute kidney injury (AKI) in patients receiving both of these antibiotics when compared to vancomycin monotherapy. The purpose of this study is to examine the incidence of AKI in patients receiving either vancomycin monotherapy or vancomycin plus piperacillin-tazobactam in medical/surgical patients at Regional One Health.

Methodology: A retrospective chart review was performed to identify patients admitted to medical/surgical units of Regional One Health between October 1, 2014 and March 31, 2015 who received vancomycin with or without piperacillin-tazobactam for at least 48 hours. Patients with less than four SCr draws, no vancomycin trough, or baseline kidney dysfunction were excluded. Patients were evaluated for development of AKI (defined as 1.5 x baseline SCr) during the course of antibiotics. Data was also collected to examine possible risk factors for development of AKI, such as concomitant nephrotoxins, 4.5 gram dose of piperacillin-tazobactam, and Q8h dosing of vancomcyin.

Results (preliminary): 867 patients were identified, and 189 were included in analysis. More patients in the vancomycin + piperacillin-tazobactam group developed AKI than in the vancomycin monotherapy group (18.4% vs 5.6%, p=0.008). Odds ratio for developing AKI in the vancomycin + piperacillin-tazobactam group was 3.79.

Conclusions (to date): Patients receiving piperacillin-tazobactam in addition to vancomycin are more likely to develop AKI than those receiving vancomycin monotherapy. Further analysis is underway to identify possible risk factors associated with AKI in this patient population.

Presentation Objective: Examine the incidence of acute kidney injury in medical/surgical patients receiving either vancomycin monotherapy or vancomycin plus piperacillin-tazobactam at Regional One Health.

Self-Assessment Question: What are some possible risk factors for development of acute kidney injury in patients taking vancomycin + piperacillin-tazobactam?

THE IMPACT OF PHARMACIST-BASED DISCHARGE MEDICATION RECONCILIATION AND EDUCATION ON READMISSION RATES FOR VETERANS WITH HEART FAILURE

Donna Bingham, Jennifer Ballard
G.V. (Sonny) Montgomery Veterans Affairs Medical Center
Jackson, Mississippi

Background/Purpose: Pharmacists play an integral role in transitioning care from the hospital to the home by identifying medication discrepancies, recommending medication interventions, and providing clarification on discharge regimens. Studies have shown that transitional care interventions have made a positive impact on readmission outcomes for heart failure patients. This study will help the G.V. (Sonny) Montgomery VAMC further evaluate the impact of pharmacist-based clinical medication review and discharge education to identify improvement opportunities for the discharge process.

Methodology: Prior to commencement, this study was submitted to the Veterans Affairs (VA) Institutional Review Board for approval. Veterans discharged with a diagnosis of heart failure from the G.V. (Sonny) Montgomery VAMC between December 2015 and January 2016 were included. Veterans with a significant cognitive impairment that prevented education, who were transferred to another healthcare facility, or who were not discharged on any medications were excluded. Prior to discharge, Veterans were randomly assigned to receive medication reconciliation and education by a clinical pharmacist or to receive the standard of care utilizing the hospital's current discharge process. Those Veterans in the active group had their medication profiles reviewed by a clinical pharmacist who identified any discrepancies, made recommendations to the physician, and counseled the veterans on their medications at discharge. Data collected during the period of December 1, 2015 to January 31, 2016 included age, sex, discharge diagnosis, number of discrepancies, type of discrepancies, and intervention acceptance. From January 1, 2016 to February 29, 2016, Veterans will be assessed via chart review for heart failure related readmission within 30 days of discharge.

Results: Pending

Conclusions: To be presented

Presentation Objectives: To identify the potential impact of clinical pharmacist-based medication reconciliation and education during the discharge process.

Self-Assessment Question: What is the potential utility of clinical pharmacist involvement in the discharge process for Veterans with heart failure?

Friday, April 22
Session IV

Room 123

10:20 **Greer, Jason - PGY1 Community Pharmacy Practice**
Union University School of Pharmacy – Jackson, TN
ASSESSING THE IMPACT OF A PHARMACIST DRIVEN ADMISSION MEDICATION RECONCILIATION PROCESS IN A SMALL RURAL HOSPITAL

10:40 **Fuller, Laura – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
PHENYTOIN DOSING IN THE OBESE: ARE ADEQUATE LOADING DOSES ACHIEVED IN THE EMERGENCY DEPARTMENT?

11:00 **Wilkerson, Holly - PGY1 Community Pharmacy**
Union University School of Pharmacy – Jackson, TN
INFLUENCE OF AN EDUCATIONAL INTERVENTION DESIGNED TO ENHANCE PARTICIPANTS' KNOWLEDGE OF AND SELF-EFFICACY TOWARDS ENROLLING IN MEDICARE PART D DRUG PLANS

11:20 **Walley, Jeremy – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
UTILIZATION OF ALDOSTERONE ANTAGONISTS IN VETERANS WITH HEART FAILURE WITH EJECTION FRACTION <= 35% ON ANGIOTENSIN CONVERTING ENZYME INHIBITORS AND BETA BLOCKERS

Room 215

10:20 **Chakrabarti, Anwesa – PGY1 Pharmacy Practice**
Jackson-Madison County General Hospital – Jackson, TN
EFFECT OF VANCOMYCIN LOADING DOSES ON VANCOMYCIN TROUGH CONCENTRATIONS

10:40 **VanCleve, Jonathan – PGY1 Pharmacy Practice**
VAMC Memphis
EVALUATION OF PROLONGED ANTIBIOTIC THERAPY FOR CLOSTRIDIUM DIFFICILE DUE TO REPEAT TOXIN PCR TESTING

11:00 **Hockings, Chi-Fan (Jennifer) – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
IMPACT OF APPROPRIATE WEIGHT-BASED DOSING OF GRANULOCYTE-COLONY STIMULATING FACTORS IN ACUTE LEUKEMIA AND STEM CELL TRANSPLANT PATIENTS

11:20 **Fannin, JT – PGY2 Pediatric Oncology**
St. Jude Children's Research Hospital – Memphis, TN
PENTAMIDINE IS EFFECTIVE PROPHYLAXIS AGAINST PNEUMOCYSTIS JIROVECII PNEUMONIA (PCP) IN PEDIATRIC ONCOLOGY PATIENTS

Room 217

10:20 **Elliott, Nicholas – PGY1 Pharmacy Practice**
VAMC Memphis
APPROPRIATE MONITORING TO IMPROVE SOTALOL SAFETY

10:40 **Todd, Heather – PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Desoto, Southaven, MS
EVALUATION OF PAIN MANAGEMENT IN ADULT SURGICAL PATIENTS TREATED WITH MULTIMODAL THERAPIES.

11:00 **Byun, AhYoung – PGY1 Ambulatory Care**
Regional One Health – Memphis, TN
EVALUATION OF PRESCRIBING PATTERN OF STATINS IN PATIENTS WITH DIABETES: BEFORE AND AFTER PHARMACIST EDUCATION TO MEDICAL STAFF

Friday, April 22
Session IV

11:20 OPEN

Room 219

10:20 **Troelstrup, David – PGY2 Emergency Medicine**
Methodist University Hospital – Memphis, TN
OUTCOMES OF PATIENTS TRIAGED WITH A POSITIVE SEPSIS SCREEN IN THE EMERGENCY DEPARTMENT AND DISCHARGED HOME

10:40 **Cwynar, Lindsay – PGY1 Acute Care**
Fort Sanders Regional Medical Center – Knoxville, TN
EVALUATING THE EFFECTS OF INSULIN PRESCRIBING PRACTICES ON BLOOD GLUCOSE CONTROL IN CRITICALLY ILL PATIENTS

11:00 **Lay, Nicoleah – PGY1 Oncology**
Fort Sanders Regional Medical Center – Knoxville, TN
ASSESSMENT OF PHARMACISTS' KNOWLEDGE OF ORAL CHEMOTHERAPY AGENTS BEFORE AND AFTER COMPLETION OF A CONTINUING EDUCATION (CE) PROGRAM

11:20 **Dees, Cassandra – PGY2 Solid Organ Transplant**
Methodist University Hospital – Memphis, TN
EVALUATION OF GRAFT FUNCTION BASED ON THE EARLY ACHIEVEMENT OF TACROLIMUS TARGET LEVELS IN KIDNEY RECIPIENTS RECEIVING RABBIT ANTITHYMOCYTE GLOBULIN INDUCTION

Room 308

10:20 **Kroll, Megan – PGY1 Pediatrics**
Le Bonheur Children's Hospital - Memphis, TN
EVALUATION OF THE INCIDENCE OF POST-OPERATIVE WOUND INFECTION IN NEONATES AND INFANTS RECEIVING STRESS DOSE HYDROCORTISONE PRIOR TO GASTROINTESTINAL SURGERY

10:40 **Brinser, Emily – PGY2 Health-Systems Pharmacy Administration**
HCA (Joint UT Institution) - Nashville, TN
IDENTIFICATION AND EVALUATION OF CURRENT PRACTICES AND OPPORTUNITIES OF EMERGENCY DEPARTMENT PHARMACISTS USING CLINICAL SURVEILLANCE SOFTWARE (EDPHARMACISTS)

11:00 **Daniels, Clay – PGY2 Medication-Use Safety**
St. Jude Children's Research Hospital – Memphis, TN
A QUALITY IMPROVEMENT PROJECT TO COMPREHENSIVELY REDUCE ALERT FATIGUE FROM ACTIVE CLINICAL DECISION SUPPORT

11:20 **Klick, Zachary – PGY2 Cardiology**
HCA (Joint UT Institution) - Nashville, TN
BLOOD FACTOR PRODUCT USE PERIOPERATIVELY IN NON-HEMOPHILIAC CARDIOVASCULAR SURGERY PATIENTS

Friday, April 22
Session IV

Room 315

10:20 **Tsiu, Melissa – PGY1 Pharmacy Practice**
Baptist Memorial Hospital - Memphis
EFFECT OF ADEQUATE FLUID RESUSCITATION AND APPROPRIATE ANTIBIOTIC THERAPY ON MORTALITY AND LENGTH OF STAY IN PATIENTS WITH SEPSIS

10:40 **Hughes, Jonathan – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
ADHERENCE TO THE 2012 AMERICAN COLLEGE OF RHEUMATOLOGY MANAGEMENT OF GOUT GUIDELINES ON MONITORING OF AND ADHERENCE TO URATE LOWERING THERAPY

11:00 **Seligson, Nathan – PGY1 Pharmacy Practice**
Baptist Memorial Hospital - Memphis
RETROSPECTIVE ANALYSIS OF CLADRIBINE USE IN ACUTE MYELOID LEUKEMIA INDUCTION TREATMENT

11:20 **Thomas, Ashley – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
LIMITING WARFARIN TABLET STRENGTHS AT A VA MEDICAL CENTER

Assessing the Impact of a Pharmacist Driven Admission Medication Reconciliation Process in a Small Rural Hospital

Jason Greer, Erica Rogers, Deidra Easley
Union University School of Pharmacy and Tennova Regional Healthcare
Jackson, TN

Background: Medication errors and adverse drug events within the healthcare system are a growing concern for public health and safety. Medication errors that result in adverse drug events increase healthcare associated costs and negatively impact patient outcomes. Many medication errors occur at transitions of care and significant portions of these medication errors can be prevented by admission medication reconciliation. The goal of the medication reconciliation process is to avoid medication discrepancies such as omissions, duplications, dosing errors, and drug interactions. Pharmacists have unique skills to identify and correct medication discrepancies during a medication reconciliation process.
Methodology: This study was a quality improvement initiative, which was conducted over a 4-week period at a rural, 150-bed hospital. In the study population of recently admitted patients, data was collected prospectively through personal interviews with patients/caregivers and from medication lists provided by the patient's community pharmacy. The primary investigator categorized all discrepancies and descriptive statics were used for all data.
Results: A total of 124 patients involving 1315 medications were included in the analysis. Each patient was prescribed an average of 10.6 medications. The average number of discrepancies for each patient profile was 3.73. There were 352 total changes to patient profiles during the study period. The majority of the changes occurred in patients between 50-71 years of age.
Conclusions: Pharmacist's involvement during a hospital's medication reconciliation process resulted in an increase of medication additions, removals, and modifications to the patient's home medication record. This study indicates that incorporating additional pharmacy personnel may be beneficial in ensuring safe and accurate medication reconciliation during inpatient admission. Additional research is needed to determine the true impact of additional pharmacy personnel in the medication reconciliation process.
Presentation Objective: Demonstrate the need to establish pharmacy led medication reconciliation upon hospital admission.
Self-Assessment: What is the reported annual incidence of preventable adverse drug events resulting from medication errors in hospitalized patients?

Phenytoin Dosing in the Obese: Are Adequate Loading Doses Achieved in the Emergency Department?

Laura A. Fuller, Megan Van Berkel, Ana Negrete, Heather Snyder, Jessica Rivera
Methodist LeBonheur Healthcare
Memphis, TN

Background/Purpose: Phenytoin (PHT) is frequently utilized for acute seizure control in the emergency department (ED), with a recommended loading dose of 15-20 mg/kg. However, many providers prescribe a 1000 mg convenience dose for all patients regardless of weight. With increasing obesity rates, the fixed-dosing strategy may result in subtherapeutic concentrations, subsequently affecting clinical outcomes. Given the lack of data available to guide dosing of PHT in overweight, obese, and extremely obese patients, the purpose of this study is to evaluate whether or not these patients received adequate loading doses compared to patients of a normal weight.

Methodology: A retrospective review of patients receiving intravenous (IV) PHT in the ED from October 2011—2015 was conducted. The primary outcome assessed if patients with a BMI $\geq$25 kg/m^2 received an adequate IV loading dose of PHT compared to those of a normal weight (BMI <25 kg/m^2). Secondary outcomes included adequate corrected serum PHT levels, control or recurrence of seizures, requirement for supplemental dosing of PHT, and addition of other antiepileptic medications. Secondary safety data included supratherapeutic PHT levels and documented PHT toxicity.

Results: After review, 50 patients have met inclusion criteria to date. The mean BMI for patients with a normal weight compared to patients with a BMI $\geq$25 kg/m^2 was 20.4 kg/m^2 and 32.4 kg/m^2, respectively (P<0.001). For the primary outcome, 18/29 patients (62.1%) with a BMI <25 kg/m^2 and 7/21 patients (33.3%) with a BMI $\geq$25kg/m^2 received an adequate loading dose of 15-20 mg/kg (P=0.045). For secondary outcomes, 9/29 patients (31.0%) with a BMI <25 kg/m^2 and 5/21 patients (23.8%) with a BMI $\geq$25 kg/m^2 had an adequate serum level of PHT within 24 hours of the loading dose (P=0.574). Overall, PHT toxicities were rare.

Conclusions: Final data analysis and conclusions to be presented.

Presentation Objective: To determine if patients with a BMI $\geq$25 kg/m^2 receive adequate IV loading doses of PHT in the ED.

Self-Assessment Question: What IV PHT loading dose strategy should be used in obese patients?

Influence of an Educational Intervention Designed to Enhance Participants' Knowledge of and Self-Efficacy Towards Enrolling in Medicare Part D Drug Plans

Holly Wilkerson[1,2], Sean King[1], Ashley Pugh[1,2], Cindy Fisher[3], Dani Gomez[2]
Union University School of Pharmacy, Jackson, TN[1]; Kroger Pharmacy, Jackson, TN[2]; Kroger Division Office, Memphis, TN[3]

Background/Purpose:
In 2006, Medicare introduced the Part D prescription drug benefits program, which placed the onus upon beneficiaries to voluntarily enroll into a drug plan offered by various carriers. To make informed choices, beneficiaries must possess adequate knowledge to distinguish between multiple plans. Literature indicating "beneficiary understanding of important details regarding Part D program structure" is limited. This signifies enrollment decisions may be made without adequate understanding of this complex process.

Methodology:
Medicare Part D eligible and near eligible patients are offered opportunities to participate in free educational programs designed to assist in selecting the most appropriate plan. This educational intervention consisted of a pretest-posttest design. Participants' knowledge was assessed using questions based on the learning objectives and published literature. Self-efficacy was assessed using questions adapted from an established instrument. Paired Sample t-tests were used to determine the impact of the intervention. Individual characteristics and dichotomous variables were summarized using descriptive statistics. All comparisons are made at the *a priori* alpha level 0.05.

Results:
To date, data have been obtained on 49 individuals. The majority of participants were female (87.8%), with an average age of 78 years, currently enrolled in a Medicare Part D program (84%), and possessed inadequate FHL (58.2%). Participants' self-efficacy and knowledge significantly improved at post-test ($p \leq 0.05$).

Conclusions:
This research may serve as an effective model for elucidating the role of pharmacists in educating the Medicare aged population. Additional research, which includes the use of a control group, is needed to further evaluate the intervention used here. A larger sample of patients is also needed to draw more meaningful conclusions.

Presentation Objective:
To assess the knowledge and self-efficacy of participants enrolling in Medicare Part D drug plans, and to evaluate the impact of an educational intervention empowering beneficiaries to make informed choices when choosing a plan.

Self-Assessment Question:
True or false: Patients eligible or near eligible for Medicare Part D can benefit from an educational program to assist them in selecting the most appropriate plan.

Utilization of Aldosterone Antagonists in Veterans with Heart Failure with Ejection Fraction ≤ 35% on Angiotensin Converting Enzyme Inhibitors and Beta Blockers

Authors: Jeremy Walley, Nilam Patel, Jessica L. Wallace, Lauralee Maxwell, Michael S. McFarland; VA Tennessee Valley Healthcare System Nashville, TN

Background/Purpose
Hospitalizations of Veterans due to heart failure (HF) attribute to $37.2 billion in annual healthcare costs. The 2013 HF guidelines recommend aldosterone antagonist use in New York Heart Association (NYHA) class II-IV with ejection fraction (EF) ≤ 35%. Despite proven mortality benefits, several studies have demonstrated that many patients with symptomatic HF do not receive this therapy. Also, some patients that do receive evidence-based therapy have contraindications either due to hyperkalemia or renal insufficiency. This study assessed current aldosterone antagonist prescribing and monitoring in our healthcare facility in an effort to optimize HF treatment in veterans.

Methodology
This was a single healthcare system, retrospective, observational analysis from July 2013 to July 2015. HF patients were included if they had an EF less than 35% and were on an angiotensin converting enzyme inhibitor/angiotensin receptor blocker and beta-blocker therapy. Monitoring of serum creatinine and potassium from initiation of aldosterone antagonist was within 7, 14, 30, 60, and 90 days as well as incidence of hyperkalemia within 30 days of initiation. Based on prior studies, we estimated 45% of our Veterans with HF were on aldosterone antagonists requiring a sample size of 350 patients for 80% power. The primary objective was the percentage of appropriate aldosterone antagonist utilization in addition to optimal HF therapy in veterans with EF ≤ 35%. The secondary objectives assessed for appropriate monitoring and the incidence of hyperkalemia.

Results
Pending

Conclusions
Pending

Presentation Objective
To examine the appropriateness of aldosterone antagonist utilization in veterans on optimal therapy with an EF ≤ 35% based on current HF guidelines.

Self-Assessment Question
Which NYHA classes benefit from aldosterone antagonist according to current guideline recommendations for HF patients with an EF ≤ 35%?

Effect of vancomycin loading doses on vancomycin trough concentrations

Anwesa Chakrabarti, Alydia Snyder, Jamie Hopkins
Jackson-Madison County General Hospital
Jackson, Tennessee

Background/Purpose: The 2009 American Society of Health System Pharmacists/ Infectious Diseases Society of America (ASHP/IDSA) guidelines recommend using vancomycin loading doses to achieve faster goal troughs in seriously ill patients. An ongoing quality assessment at Jackson-Madison County General Hospital (JMCGH) has consistently shown that pharmacist dosed first troughs are not within goal range a majority of the time. We hypothesized that loading doses may achieve faster goal troughs without increasing rates of nephrotoxicity. Since all patients were included, not just the critically ill, a more conservative loading dose of 22-25 mg/kg was used for the protocol.

Methodology: The study was conducted at a tertiary care community based hospital with a pharmacist dosed pharmacokinetic service. A loading dose based protocol was created and the staff were educated. Inclusion criteria were patients 18 years or older who received at least one day of vancomycin with a consult for pharmacy to dose vancomycin. Exclusion criteria were patients receiving hemodialysis, patients receiving pulse dosing, and vancomycin discontinued or dosing assumed by another service prior to obtaining a trough. Data collected included baseline characteristics and patient demographics. Groups were retrospectively compared pre- and post education.

Results: Pending

Conclusions: Pending

Presentation Objective: To determine if adding a vancomycin loading dose of 22-25 mg/kg to scheduled maintenance dosing leads to more initial goal troughs.

Self-Assessment Question: Based on the data from this study, how did adding a vancomycin loading dose of 22-25 mg/kg to scheduled maintenance dosing affect the initial trough?

Evaluation of Prolonged Antibiotic Therapy for *Clostridium Difficile* Due to Repeat Toxin PCR Testing

Jonathan Van Cleve, Shari May
Memphis VA Medical Center

Background:
According to the Center for Disease Control, *Clostridium difficile* is estimated to cause almost half a million infections annually and 29,000 of these patients died within one month of initial diagnosis. The increase in frequency of antibiotic-resistant strains of *C. difficile* over the past several years represents a serious threat to the current healthcare system. The guidelines from the Infectious Diseases Society of America and the American College of Gastroenterology both recommend not retesting for *C. difficile* toxin to check for clearance of the infection after antibiotic treatment is completed. Studies have shown *C. difficile* toxins can remain for up to 6 weeks in stool samples after treatment has been completed. Testing for clearance of infection may unnecessarily prolongs antibiotic therapy which puts patients at risk for antibiotic resistance, increases hospital costs, and increases chances of adverse drug reactions from antibiotics.

Methodology:
This study is a retrospective medical chart review of patients admitted to the Memphis Veteran Affairs Medical Center from the dates of January 1, 2012 to December 31, 2014. Patients included were those which had a positive *C. difficile* toxin PCR assays during this time period. Medical charts were reviewed for data such as dates of admission, length of hospital stay, number of antibiotic days, number of *C. difficile* toxin assays run, and complications from *C. difficile* infections.

Results: pending

Conclusions: pending

Presentation Objective:
To evaluate if re-testing *Clostridium difficile* toxin PCR assays prolongs antibiotic use in a hospitalized veteran population.

Self-Assessment:
Should patients be re-tested for “cure” of *C. difficile* infection after completion of antibiotic treatment?

Impact of Appropriate Weight-Based Dosing of Granulocyte-Colony Stimulating Factors In Acute Leukemia and Stem Cell Transplant Patients

Jennifer Hockings, Susan Wheelis, Joyce Broyles, Diwura Owolabi
Methodist University Hospital
Memphis, TN

Background/Purpose: Febrile neutropenia is a major risk factor for infection-related morbidity and mortality. The National Comprehensive Cancer Network recommends the prophylactic use of granulocyte-colony stimulating factors (G-CSF), dosed at 5 mcg/kg and rounded to the nearest vial size. A previous medication use evaluation conducted within the Methodist Le Bonheur Healthcare system demonstrated that only 67% of patients were started on appropriate weight-based dosing. The purpose of this study is to evaluate the effect of appropriate weight based G-CSF dosing in patients on clinical outcomes.

Methodology: A retrospective chart review of patients with acute leukemia or stem-cell transplant recipient who received G-CSF from 1/2008 to 9/2015 was conducted. Patient admissions were reviewed in regards to neutropenia length, incidence of febrile neutropenia, appropriate discontinuation of G-CSF and length of stay.

Results: Ninety four admissions have been included. Average age is 58 years old, and the majority of patients are male (53%) and Caucasian (55%). Acute myeloid leukemia (91%) is the prevailing cancer diagnosis. Data shows duration of neutropenia is shorter for patients who received approximately 5 mcg/kg of G-CSF versus those who received less than 5 mcg/kg or greater than 5 mcg/kg (8.9±9.2 days versus 9.9±6.7 days and 10.3±9.2 days respectively). Length of stay is similar for patients who received less than 5 mcg/kg or approximately 5 mcg/kg of G-CSF (29.6±16.0 days and 29.1±18.4 days respectively) but shorter for those who received or greater than 5 mcg/kg (25.1±16.9 days).

Conclusions: Results demonstrate that the amount of G-CSF received did not significantly impact length of neutropenia or stay. However, patients who received greater than 5 mcg/kg of G-CSF may have a have a clinically significant shorter length of stay.

Presentation Objective: Evaluate appropriate weight-based dosing of G-CSF on clinical outcomes.

Self-Assessment Question: Does appropriate weight-based dosing of G-CSF decrease length of neutropenia?

Title: Pentamidine is Effective Prophylaxis against *Pneumocystis jirovecii* Pneumonia (PCP) in Pediatric Oncology Patients.

Authors: JT Fannin, Melissa Quinn, Joseph Sciasci, Hope Swanson, Allison Bragg, Jennifer L. Pauley, Kristine R. Crews, Delia Carias, David Gregornik, Joshua Wolf, Patrick Campbell, Sima Jeha, Gabriela Maron, William Greene. St Jude Children's Research Hospital, Memphis, TN

Background/Purpose: PCP is a potentially life-threatening opportunistic infection in children receiving immunosuppressive chemotherapy. Trimethoprim-sulfamethoxazole is the preferred agent for PCP prophylaxis. An optimal alternative agent has not been clearly identified for use in pediatric patients unable to tolerate trimethoprim-sulfamethoxazole. This study describes the success rates for aerosolized and IV pentamidine for PCP prophylaxis in children receiving immunosuppressive chemotherapy at our institution.

Methodology: A retrospective chart review was conducted of pediatric oncology patients who received at least one dose of pentamidine for PCP prophylaxis between January 2007 and August 2014. The objective was to determine the rate of breakthrough PCP infection. Breakthrough infections were classified as possible, probable or proven PCP. Possible cases were identified by review of ICD-9 codes, pharmacy and pathology records, and death summaries using a surveillance definition comprising any compatible illness resulting in death or treatment for pneumocystis.

Results: A total of 754 patients, median age 8 years (range 1 month-24 years), were evaluated. Routes of pentamidine administration: aerosolized (n=158), IV (n=508), and both (n=88). Five children (0.66% of 754), including one infant less than one year of age (1.7% of 60 infants evaluated), developed possible PCP, but none had probable or proven PCP. All five cases had received only IV pentamidine.

Conclusions: Both aerosolized and IV pentamidine have acceptably low failure rates in pediatric oncology patients, including in children less than 1 year of age, and may be an acceptable alternative for PCP prophylaxis.

Presentation Objective: Describe the efficacy for aerosolized and IV pentamidine for PCP prophylaxis in children receiving immunosuppressive chemotherapy at St Jude Children's Research Hospital.

Assessment Question: What percentage of all patients receiving pentamidine for PCP prophylaxis in this cohort developed a possible PCP infection?

a. < 1%
b. 1% - 5%
c. 5% - 10%
d. > 10%

Appropriate Monitoring to Improve Sotalol Safety

Nicholas Elliott, Shannon Finks, Kelly Rogers
Veterans Affairs Medical Center - Memphis, Tennessee

Background/Purpose: Sotalol is an antiarrhythmic indicated for both treatment of ventricular and prevention of supraventricular arrhythmias. It is a Class III antiarrhythmic according to the Vaughan-Williams classification, but it also has non-selective beta-blocking effects. As a result, it has some of the common adverse drug events (ADE) seen with beta-blockers, including fatigue, dizziness, and headache. However, the main concern with sotalol use is the risk of serious and potentially life-threatening electrocardiogram (EKG) changes such as bradycardia and QTc prolongation. Like other antiarrhythmic agents, the presence of such serious ADEs highlights the importance of appropriate monitoring to ensure optimal outcomes. Sotalol is currently marketed under the brand names Betapace and Betapace AF, and the package labeling for each product provides dosing, monitoring, and other recommendations to improve safety when using sotalol. The purpose of this study is to evaluate and improve appropriateness and monitoring in patients receiving sotalol therapy at VAMC – Memphis.

Methodology: This study is a retrospective analysis of computerized medical records of patients receiving sotalol at the Memphis VAMC. The medical records of patients taking sotalol will be reviewed in order to assess appropriateness and monitoring of therapy in these patients. Data to be reviewed includes baseline EKG, baseline renal function, initial dose, and length of EKG monitoring upon initiation and re-initiation. Appropriateness at follow-up monitoring of EKG and renal function will also be reviewed. Additional data to be reviewed includes demographics, indication, and concomitant medications.

Results: Data collection ongoing

Conclusions: Pending final results

Presentation Objective: To evaluate the use of sotalol at the Memphis VAMC.

Self-Assessment Question: According to the prescribing information for sotalol, it is recommended that sotalol is initiated in the hospital, and patients' EKG and renal function are monitored for at least how long?

Evaluation of pain management in adult surgical patients treated with multimodal therapies.

Authors:

Heather Todd, Baptist Memorial Hospital-Desoto, Southaven, MS
Clara Bailey, Baptist Memorial Hospital-Desoto, Southaven, MS
Claudia Smith, Baptist Memorial Hospital-Desoto, Southaven, MS

Background/Purpose:

Studies have shown a decreased length of stay in the hospital, reduced hospital costs, decreased rehabilitation time, and increased patient satisfaction with improved pain management in post-surgery patients. Since there is not just one mechanism that causes pain, it is favorable to implement and practice a multimodal approach to attain pain relief. By combining various classes of drugs with different mechanisms of action, it is expected that more effective pain relief will be achieved, opioid use and adverse events will be reduced, surgical stress response will be reduced, and clinical outcomes will be improved.

The purpose of this study was to evaluate the amount of opioid use in post anesthesia care unit (PACU) patients receiving versus not receiving multimodal therapy. This study also measured the effectiveness of pain management with different agents as well as determined if different regimens decreased the patient's length of hospitalization.

Methodology:

A retrospective review of patients who underwent surgery and received pain medication at Baptist Memorial Hospital-DeSoto was conducted. Patients meeting the following criteria were included in the study: patients at least 18 years old, patients who underwent a surgical procedure at Baptist Memorial Hospital-DeSoto from January 1, 2015 to October 31, 2015, and patients who received pain medication in the PACU. Patients were excluded if they were less than 18 years old, pregnant, or taking scheduled opioids prior to admission.

Results: Pending

Conclusions: Pending

Presentation Objectives:

1. To evaluate the amount of opioid use in PACU patients receiving versus not receiving multimodal therapy.
2. To measure the effectiveness of pain management with different agents
3. To determine if different regimens decreased the patient's length of hospitalization

Self-Assessment Question:

Will using multimodal therapy decrease the amount of opioids needed for patients undergoing surgery, potentially leading to less toxicities and side effects?

EVALUATION OF PRESCRIBING PATTERN OF STATINS IN PATIENTS WITH DIABETES: BEFORE AND AFTER PHARMACIST EDUCATION TO MEDICAL STAFF

AhYoung Byun, Drew Armstrong, Jennifer Campbell, Marilyn Lee,
Laura Sprabery, Santhosh K Koshy
Regional One Health - Memphis, TN

Background/Purpose: Atherosclerotic cardiovascular disease (ASCVD) is highly associated with diabetes in the United States. Current standard of practice in cholesterol management in patients with diabetes are guided by two new guidelines, American College of Cardiology and American Heart Association (ACC/AHA 2013) and American Diabetes Association (ADA) Standard of Medical Care 2016. New guidelines emphasize the importance of statin therapy, specifically the intensity of statin therapy instead of treating cholesterol to specific target goals. These guidelines utilize a cardiovascular disease risk reduction tool to drive therapeutic decisions. Literature on management of cholesterol in patients with diabetes is limited since the new guidelines have been in practice. The purpose of this study is to evaluate the prescribing pattern of statins in our patients with diabetes before and after pharmacist education on these new cholesterol guidelines.

Methodology: This is a retrospective, observational study. Four hundred patients will be reviewed from August 2015 to December 2015, 200 patients before and after pharmacist education. Medical staff will be educated by a pharmacist over 2 weeks in Internal Medicine clinics. Data collection will include patient demographics, blood pressure, hemoglobin A1C, lipid panel, and medications. Primary outcomes include change in number of patients prescribed correct statin based on ASCVD risk before and after pharmacist education. Secondary outcomes will include number of patients with diabetes receiving statin therapy and prescribed statin and its dose.

Results (preliminary): Pre-statistical analysis showed the following. Pre-education data indicated 141 out of 200 patients (70.5%) were on correct statin intensity based on ASCVD risk. Post-education data showed 148 out of 200 patients (74%) were on correct statin intensity based on ASCVD risk. In the post-education group, 22 out of 200 patients (11%) were switched from lower intensity to appropriate statin intensity based on ASCVD risk.

Conclusions: To be presented

Presentation Objective: To discuss the correct statin intensity and dose for patients with diabetes based on ASCVD risk score.

Self-Assessment Question: What factors should be considered when prescribing statin therapy in patients with diabetes?

Outcomes of patients triaged with a positive sepsis screen in the emergency department and discharged home

David Troelstrup, Justin Usery, Jessica Rivera, Megan Van Berkel, Ana Negrete
Methodist University Hospital, Memphis, Tennessee

Abstract

Background: Septic patients account for approximately one million annual presentations to emergency departments (ED) and subsequent intensive care unit (ICU) admissions. Despite improvements in sepsis care, mortality remains high, reported between 10-50 percent. One important aspect of improving outcomes in septic patients is early identification and treatment. **Objective:** A retrospective study was conducted to evaluate patient and disease factors in patients that re-present to the ED within one week following a positive triage sepsis screen and subsequent discharge to home. **Methodology:** A retrospective analysis was performed of adults (>18 years old) that presented to the Methodist University Hospital ED from February 2015 to August 2015 with a positive sepsis screen during the initial triage who were discharged home. Baseline patient demographics and initial laboratory values will be compared between those patients that re-present to the ED within one week and those that do not. Additionally, patient outcomes during the subsequent visit will be assessed. Patients were excluded if any the following criteria were met, patients that leave against medical advice, patients transferred to/from an outside facility (non Methodist Le Bonheur Healthcare), and incomplete data (i.e. no WBC documented). **Results:** To date, 300 patients have been initially screened for inclusion/exclusion criteria with 40 patients being excluded. Fifty-nine patients represented to the ED within one week. Ongoing data collection continues and results will be presented. **Conclusions**: The data collected from this project will help to identify patient and disease factors which may contribute to patient representation at our institution and identify patients that may require admission but appear clinically stable at the time of discharge to home from the ED.

Presentation Objective: Identify patient and disease factors that contribute to hospital re-presentation in patients with an initial positive sepsis screen and discharged to home from the ED.

Self-Assessment Question: Which patient and disease factors may contribute to re-presentation to the emergency department within one week in patients with an initial positive sepsis screen?

Evaluating the effects of insulin prescribing practices on blood glucose control in critically ill patients

Lindsay Cwynar, Dillon Elliott, Lori Schirmer
Fort Sanders Regional Medical Center
Knoxville, TN

Background/Purpose: Current literature suggests hyperglycemia results in worsened outcomes in critically ill patients. Although specific goals are heavily debated, critical care guidelines recommend maintaining blood glucose values below 180mg/dL and initiating insulin therapy for blood glucose values 150mg/dL or greater. Oftentimes, therapy is delayed due to concerns about increased nursing workload and potential for adverse reactions.

This research initiative evaluates safety and efficacy of revised insulin prescribing in the critical care units.

Methodology: Blood glucose values will be collected before and after insulin prescribing practices in the critical care units is revised. Pre-intervention data collection utilized a glycemic control report generated from the electronic medical record system. This report was used to identify patients with blood glucose levels 180mg/dL or above in the hospital's critically ill population each day. Included in pre-intervention data collection were patients with two blood glucose values of at least 180mg/dL and they must be located in either the medical-surgical or neuro-intensive care unit. In post intervention data collection, all patients managed by participating prescribers were included.

Data being collected includes type of insulin intervention, time to reach blood glucose control, frequency of hypoglycemia, and percentage of blood glucose values that are controlled versus uncontrolled.

Patients are excluded from the study if their diagnosis includes diabetic ketoacidosis or hyperosmolar hyperglycemic state, they are in the cardiovascular intensive care unit, or their length of stay in the intensive care unit is less than twenty-four hours.

Results: During pre-intervention data collection, the average time found it takes to achieve blood glucose control (defined as less than 180mg/dL) within the critical care units is currently 30.7 hours.

Conclusion: pending

Presentation Objective: To demonstrate how the impact of updating a nurse driven insulin protocol to align with current critical care guidelines can reduce the frequency of hyperglycemia in the intensive care units.

Self-Assessment Question:

At what blood glucose value is it recommended to start insulin therapy in the intensive care unit, according to the 2012 Critical Care guidelines?

Assessment of pharmacists' knowledge of oral chemotherapy agents before and after completion of a continuing education (CE) program

Nicholeah Lay, Joel Morrison
Fort Sanders Regional Medical Center – Knoxville, TN

Background:
There are currently more than 50 orally administered chemotherapy agents available. As of 2014, there were an additional 250 oral chemotherapy (OC) agents under investigation. Of current chemotherapy agents, 10% are administered orally, and this is expected to increase 30-35% annually. Additionally, OC agents are first line treatment in a growing number of cancers. The continued expansion of OC agents necessitates ongoing education of pharmacists to ensure the safety and appropriateness of oral chemotherapy regimens.

Methodology:
A survey was constructed and administered to pharmacists with varying backgrounds and training in multiple community hospital settings. Pharmacists with and without residency training completed the survey. The survey included questions which assessed the knowledge of appropriate indication, drug administration guidelines, dosing schedules, key food and drug interactions, side effects, and mechanism of action of oral chemotherapy agents. The survey was administered to attain information on pharmacists' baseline knowledge of oral chemotherapy agents prior to a live continuing education (CE) seminar. After the surveys were completed, a CE seminar was presented to provide education on approximately 30 commonly used OC agents. The CE presentation was constructed around key concepts, which were ranked in level of importance by experts in the field of oncology. These key concepts were taught during the live CE seminar, and a post survey was given after completion of the CE seminar to assess post education knowledge. It was a requirement to take the survey before attending the live CE seminar. A follow up survey was administered one month after completion of the CE seminar to assess for retention of information.

Results: pending

Conclusions: pending

Presentation Objective: To assess and analyze the effects of a live continuing education presentation on pharmacists' baseline knowledge of oral chemotherapy agents.

Self-Assessment Question: Does one hour of live continuing education improve a hospital pharmacist's knowledge and confidence in processing oral chemotherapy orders?

Evaluation of graft function based on the early achievement of tacrolimus target levels in kidney recipients receiving rabbit antithymocyte globulin induction

Cassandra Dees[1,2], Heather Snyder[1], Amy G. Krauss[1], Sami Sakaan[1], Benjamin Duhart, Jr.[2]

[1]Methodist University Hospital, Memphis, TN; [2]University of TN College of Pharmacy, Memphis, TN

Background/Purpose: Tacrolimus (TAC) is a calcineurin inhibitor prescribed for the prophylaxis of acute rejection in kidney transplant recipients. Population differences in pharmacokinetics and pharmacogenomics responsible for TAC metabolism may impact early achievement of therapeutic trough levels. Aggressive dosing of TAC is limited due to its inherent nephrotoxicity. Induction immunosuppression with rabbit antithymocyte globulin (RATG) allows for additional time to adjust TAC doses and minimizes the risk of acute rejection and TAC toxicity. The purpose of this study is to evaluate whether early achievement of target TAC trough levels impacts eGFR at 12 months post-transplant in kidney transplant recipients receiving RATG induction.

Methodology: We conducted a single-center retrospective chart review of adult kidney recipients at Methodist University Hospital Transplant Institute between August 24, 2010 and September 8, 2014. Patients were stratified into two groups based on a therapeutic (>8ng/dL) or subtherapeutic TAC trough level at their first clinic visit or readmission.

Results: 242 patients were screened and 200 met the inclusion criteria with 69 in the therapeutic group and 131 in the subtherapeutic group. There were no differences in baseline characteristics between groups. The mean eGFR at 12 months post-transplant was 58.1±18mL/min/1.73m^2 in the therapeutic group and 59.4±20.9mL/min/1.73m^2 in the subtherapeutic group (p=0.66). The median time in days to therapeutic TAC level was 9(IQR:7-12) and 18(14-30) for the therapeutic and subtherapeutic groups, respectively (p=0.1615). There were no significant differences in 1-year patient and graft survival, incidence of biopsy proven acute rejection, or infection between groups.

Conclusions: RATG induction provides an immunosuppressive buffer to allow additional time to achieve therapeutic TAC trough levels without affecting 1-year graft function in kidney transplant recipients. These findings may not be applicable to recipients of non-lymphocyte depleting induction agents.

Presentation Objective: To discuss the impact of early achievement of tacrolimus trough levels on graft function at 12 months post-transplant in kidney recipients receiving RATG induction.

Self-Assessment Question: Does early achievement of tacrolimus trough levels impact eGFR at 12 months post-transplant in kidney recipients receiving RATG?

Evaluation of the incidence of post-operative wound infection in neonates and infants receiving stress dose hydrocortisone prior to gastrointestinal surgery

Megan Kroll, Cindy Hanson, Kelly Bobo, Narendra Dereddy
Le Bonheur Children's Hospital, Memphis TN

Background/Purpose
Neonates and infants who have had prior exposure to systemic steroids may be unable to increase endogenous cortisol levels in response to surgical stress due to suppression of the hypothalamic-pituitary-adrenal axis. These patients often receive stress doses of hydrocortisone peri-operatively to prevent adrenal crisis. High dose steroids are associated with increased risk for infection. The objective of this study is to assess the incidence of wound infections in neonates in respect to use of high dose steroids prior to surgery. Respiratory deterioration and incidence of hypotension after surgery will also be analyzed to determine if perioperative steroid use improves these outcomes.

Methodology
This retrospective study will use surgery records to identify patients in the neonatal intensive care unit who underwent gastrointestinal surgery from July 2013 to July 2015. Patients who underwent Class III (contaminated) or Class IV (dirty) surgery, as well as patients that were admitted on the day of surgery, will be excluded. The electronic health record will be utilized to perform patient chart review to determine how many patients developed wound infections after surgery. Infection rates will be compared between patients who received stress dose hydrocortisone peri-operatively and those that did not. Wound infection is defined as diagnosis by the pediatric general surgery team by reference in a daily progress note, extended antibiotic use post-operatively or antibiotic initiation within seven days post-operatively. Use of vasopressor medications and respiratory support will be assessed to determine whether stress dose hydrocortisone benefit post-operative hemodynamics.

Results
In progress

Conclusions
In progress

Presentation Objective
Recognize the incidence of post-operative wound infections in patients who received stress-dosed hydrocortisone prior to surgery compared to those who did not.

Self-Assessment
Which of the following is an indication for use of stress-dose hydrocortisone in a neonate prior to GI surgery?

A. Use of steroids ≥ 5 days
B. All NICU patients requiring GI surgery
C. A patient who required 24 hours of dexamethasone to facilitate extubation
D. Stress dose steroids are are not necessary

Title:
Identification and evaluation of current practices and opportunities of emergency department pharmacists using clinical surveillance software (EDPharmaCiStS)

Authors:
Emily Brinser, Nickie Greer, Mandelin Cooper, William Waters, Joan Kramer, Hayley Burgess; Hospital Corporation of America/Parallon Business Solutions, Nashville, TN

Background/Purpose:

Emergency departments (EDs) traditionally have limited pharmacist involvement. Yet medical errors were reported 13 times more often during pharmacist absences. Additionally, readmissions due to treatment failure, patient noncompliance, allergies to medications, and adverse drug reactions (ADRs) decreased from 19% to 7% after the addition of a pharmacist in the ED. Clinical surveillance software (CSS) is a technology tool allowing documentation and tracking of pharmacists' clinical interventions, as well as alerts for potential therapy modifications based on real time clinical data. The purpose of this research is to determine current practices of ED clinical pharmacists using documentation from CSS.

Methodology:

This study has been approved by the Institutional Review Board.
De-identified data from January 2015 through January 2016 was obtained from the CSS for two facilities. Data was normalized to account for seasonal fluctuations, facility size, and patient case mix. Data analysis evaluated busiest hour for activations and interventions documented as manually identified vs. CSS generated. Interventions were further subdivided based on type including antimicrobial, consults, medication reconciliation, etc.

Results:

Facility A totaled 11,063 interventions during the study period with an average ED volume of 182 patients daily. Facility B totaled 7,577 from May to January with an average ED volume of 164 patients daily. Manual activations totaled 5,642 and 3,514 for facility A and B, respectively. Consults and antimicrobial activations averaged at 146 and 223 per month for facility A, with 67 and 180 per month for facility B. Interventions documented outside the ED averaged 297 and 395 activations per month for facility A and B, respectively. Additional results will be presented.

Conclusions:

Documentation of interventions by pharmacist varies and facility characteristics can contribute to variations in metrics. Additional conclusions will be presented.

Presentation Objective:

Describe current practices of emergency department pharmacists.

Self-Assessment Question:

Which of the following are areas of major impact by clinical pharmacists in the ED?

A) Antibiotic dosing
B) Code responses
C) Medication reconciliation
D) All of the above

A quality improvement project to comprehensively reduce alert fatigue from active clinical decision support

Calvin C. Daniels, Jonathan Burlison, Donald Baker, Andras Sablauer, Jennifer Robertson, Patrick Campbell and James Hoffman
St. Jude Children's Research Hospital, Memphis, TN

(330/330 words)

Background/Purpose: Electronic Health Records (EHRs) utilize clinical decision support (CDS) to provide intelligently-filtered, person-specific information to enhance healthcare. Increasing use of interruptive CDS can lead to alert fatigue, a situation where clinicians may ignore clinically relevant alerts due to desensitization from receiving a high number of alerts. Efforts to reduce alert fatigue should focus on reducing the number of ineffective alerts. To measure alert effectiveness, a recent consensus panel recommended evaluating, both alert metrics from the EHR and perceived value obtained using clinician surveys. This project is designed to reduce alert fatigue at St. Jude using multiple data sources, ongoing analysis and refinement of interruptive CDS.

Methodology: Alert refinement opportunities were identified by a newly-formed, multidisciplinary alert advisory group (AAG) using both alert metrics from the EHR and clinician recommendations. Initially, alert frequency and override rate were used to identify interruptive alerts for refinement. Drug-drug interactions were analyzed based on specific drug-drug interactions by first categorizing medications into interacting classes. Refinement strategies included: suspension, customization of firing parameters, and integration of context awareness. To assess refinement effort effects, both metrics and satisfaction surveys will be analyzed pre and post AAG refinement efforts.

Results: To date, the AAG has approved ten alert refinements based on analysis of interruptive alerts during 2012-2015. Preliminary metric analysis shows a 16.7% reduction of interruptive drug-drug interaction alerts in a comparison of 28 days pre and post initial refinements. Initial alert satisfaction survey scores have been collected and will be compared to surveys to be administered after 3 months of AAG refinement efforts.

Conclusions: A novel approach using alert metric analysis, a clinician survey and a multidisciplinary clinician group to guide alert refinement efforts resulted in a reduction of interruptive alerts.

Presentation Objective: To describe a multidisciplinary approach using metric analysis, surveys and an expert panel to guide comprehensive interruptive alert refinement

Self-Assessment Question: Which is a successful method of interruptive alert refinement?

- Alert metric analysis
- Clinician satisfaction surveys
- Expert group review
- All of the above

Blood factor product use perioperatively in non-hemophiliac cardiovascular surgery patients

Zachary Klick, TriStar Centennial Medical Center/ University of Tennessee College of Pharmacy, Nashville, Tennessee; Elizabeth McNeely, HCA/ University of Tennessee College of Pharmacy, Nashville, Tennessee

Background/Purpose: Recombinant activated factor VII (rfVIIa) is indicated for the perioperative management of bleeding in patients with hemophilia A or B, congenital factor VII deficiency and Glanzmann's thrombasthenia. Prothrombin complex concentrates (PCC) are indicated for the reversal of life threatening bleeds related to anticoagulation use. The Society of Thoracic Surgeon's (STS) guidelines for blood conversation supports the off label use of rfVIIa for the management of intractable non-surgical bleeding that is unresponsive to routine hemostatic therapy after cardiac surgery procedures. There has been some evidence showing an increased risk of ischemic stroke after rfVIIa use in cardiac surgery. Small trials have shown that PCC can be safe and effective for intractable bleeding in cardiovascular surgery.

Methodology: This study will be submitted to the Institutional Review Board for approval. Patients will be included in the evaluation if they are at least 18 years of age, underwent a cardiac surgery procedure and received at least one dose of rfVIIa or PCC. Patients receiving rfVIIa or PCC not related to a cardiac surgery procedure will be excluded from the evaluation. A descriptive analysis will be performed on the data.

Results: Preliminary results show that there have been six confirmed ischemic strokes and four confirmed venous thromboembolisms (VTE) in patients receiving rfVIIa while no patients receiving PCC have had a stroke or VTE. Patients receiving rfVIIa have also received more units of fresh frozen plasma and had greater amounts of blood output through chest tubes compared to patients who received PCC.

Conclusions: PCC use at our facility has been used safely and effectively. The rate of stroke from rfVIIa use is within reported average ranges in literature.

Presentation Objective: Describe the use of PCC and rfVIIa in cardiovascular surgery.

Self-assessment Question: Which agent listed may have used in cardiovascular surgery for intractable bleeding and may have a lower ischemic stroke rate than standard of care?

A. Prothrombin complex concentrates
B. Thrombin
C. Antithrombin III

EFFECT OF ADEQUATE FLUID RESUSCITATION AND APPROPRIATE ANTIBIOTIC THERAPY ON MORTALITY AND LENGTH OF STAY IN PATIENTS WITH SEPSIS

Melissa Tsiu, Margaret Beaugh, Kristina Schatz, and Dawn Waddell
Baptist Memorial Hospital – Memphis
Memphis, TN

Background/Purpose: Sepsis, severe sepsis, and septic shock are common complications in critically ill patients and the leading causes of mortality in the intensive care unit (ICU). Early goal-directed therapy (EGDT) consists of a set of targets to be completed within the first 6 hours of patient presentation, including adequate fluid resuscitation and initiation of empiric antibiotics within the first hour of treatment. In a landmark study by Rivers and colleagues, the use of EGDT showed increased survival in patients with septic shock, yet the estimated mortality associated with sepsis remains at 20-50%. Recent studies suggest the most important parts of EGDT are fluid resuscitation and antibiotic therapy. The purpose of this study is to evaluate the effect of adequate fluid resuscitation and appropriate antibiotic therapy on inpatient mortality and length of stay in septic patients.

Methodology: A single center retrospective chart review was conducted on patients diagnosed with sepsis, severe sepsis, or septic shock admitted from the ED to the ICU of Baptist Memorial Hospital – Memphis from March 1, 2014 through August 31, 2015. Exclusion criteria included current diagnosis of acute heart failure exacerbation, acute myocardial infarction, active bleed or hemorrhage, cancer undergoing active chemotherapy, pregnancy, “do not resuscitate” status on admission, or hospice elected within 24 hours of admission. Data collected included patient demographics; vital signs; laboratory tests; microbiological data including the date and time cultures were drawn, culture results and susceptibilities, and the source of infection; fluid resuscitation data including type of fluids, amount of fluids, and infusion rate; antimicrobial data including the choice of antibiotics, the date and time antibiotics were initiated, and length of antibiotic therapy; hospital length of stay; ICU length of stay; and mortality.

Results: To be presented

Conclusions: To be presented

Presentation Objective: To examine the correlation between fluid resuscitation and antibiotic therapy on mortality and length of stay in sepsis.

Self-Assessment Question: Which of the following trials found that early goal directed therapy (EGDT) decreased mortality in patients with septic shock?

Adherence to the 2012 American College of Rheumatology Management of Gout Guidelines on Monitoring of and Adherence to Urate Lowering Therapy

Jonathan Hughes[1], Candace Bryant[2], Brent Salvig[1],Neal Fourakre[1], William Stone[1,3],Jessica Wallace[1,3]
[1]VA Tennessee Valley Healthcare System, Nashville/Murfreesboro, TN; [2]Lipscomb University College of Pharmacy; [3]Vanderbilt University School of Medicine

Background/Purpose

The 2012 American College of Rheumatology (ACR) Management of Gout Guidelines emphasize that timely monitoring of serum urate is key to achieving serum urate goals. Previous studies published prior to the 2012 guideline update revealed that prescriber monitoring of and patient adherence to urate lowering therapy (ULT) are poor in civilian and veteran populations, but these rates are unknown in the Tennessee Valley Healthcare System population. This project aims to assess adherence to 2012 ACR guideline recommendations regarding monitoring of ULT post initiation and adjustment of therapy to serum urate target, as well as patient adherence to therapy.

Methodology

Veterans with gout on allopurinol and who had at least one outpatient visit during the study period (1/1/2013-6/30/2015) were included. Veterans with ESRD as well as those receiving allopurinol from an oncologist were excluded. Serum urate levels were compared to new allopurinol prescriptions to determine the percentage of patients who had a serum urate measured within 6 months of ULT initiation. Additionally, the percentage of patients who reached serum urate goal (<6mg/dL) and the percentage that had an uptitration of allopurinol dose by provider were assessed. Claims data for allopurinol prescriptions were used to calculate a medication possession ratio and assess the percentage of patients with optimal (>80%) adherence. Finally, rates of ULT monitoring were compared between primary care providers and rheumatologists.

Results

Pending

Conclusions

Pending

Presentation Objective

Describe current ACR guideline recommendations for appropriate monitoring of ULT in gout patients.

Self-Assessment Question

Which of the following is the current ACR guideline recommendation for monitoring of ULT?

A. Monitor serum urate every 2-5 weeks and target a concentration of <6mg/dL
B. Monitor serum urate every 3-6 months and target a concentration of <6mg/dL
C. Monitor serum urate monthly and target concentration <7mg/dL
D. Monitor serum urate as needed with gout flares and increase dose if flare rate increases

Title: Retrospective analysis of cladribine use in acute myeloid leukemia induction treatment

Investigators: Nathan Seligson[1], Elizabeth Mills[1], Amy Evans[1], Athena Hobbs[1], Salil Goorha[1,2]
[1]Baptist Memorial Hospital – Memphis (BMH-M), TN, [2]Boston Baskin Cancer Foundation – Memphis, TN

Background/Purpose

Based on National Comprehensive Cancer Network (NCCN) guidelines, the standard of care for Acute Myeloid Leukemia (AML) induction includes seven days of continuous intravenous cytarabine (Ara-C) along with three doses of daunorubicin or idarubicin (DA or IA) as well as the optional addition of five doses of cladribine to the DA regimen (DAC). At BMH-M, induction treatment is most often IA or IA with the addition of cladribine (IAC). With minimal evidence to guide the utilization of IAC therapy, current practice is driven by provider preference more than objective data.

Methodology

Treatment naïve AML patients were identified through retrospective chart review; sixteen who received IA and five who received IAC as induction therapy at BMH-M. Exclusion criteria included age less than eighteen years and prior diagnosis of Chronic Myelogenous Leukemia. Patients were not excluded if they failed to complete treatment; however, patients did have to receive at least one dose of the respective regimen to be enrolled.

The primary endpoint of this study was complete remission as defined by NCCN guidelines. Secondary endpoints included 30 day survival, length of hospital stay, time to absolute neutrophil count (ANC) nadir, and time to ANC recovery. Changes in hepatic, cardiac, and renal function as well as adverse events reported were also assessed.

Results

Complete response was attained in 40% of patients treated with IA and 38% with IAC (P=0.92). Length of hospital stay and 30-survival were 30 days vs 23 days (P=0.08) and 81% vs. 80% (P=0.95) respectively. Matched data analysis pending.

Conclusions

Preliminary data suggests no difference in primary outcome between IA and IAC groups. Further conclusions pending data analysis.

Presentation Objective

Compare safety and efficacy of AML induction treatment regimens.

Self-Assessment Question

Which of the following induction regimens carries a category 1 recommendation for use in patients <60 years of age by the NCCN?

Title: Limiting warfarin tablet strengths at a VA Medical Center

Authors: Ashley Thomas, Jennifer Baker, Bishoy Ragheb, Christina Burger, James A. S. Muldowney III
Tennessee Valley Healthcare System VA Nashville and Murfreesboro, TN

Background/Purpose. The purpose of this study is to evaluate whether limiting warfarin tablet strengths to 1mg and 5mg affects patients' level of comprehension of their warfarin regimens. Additionally, the investigators will evaluate patients' abilities to reach and maintain a therapeutic INR, the effects on adverse drug events (bleeding or thrombotic events), patient compliance, and economic results between the usual care and intervention groups. By assessing the two cohorts of patients, the hope is to provide a clear picture of potential safety benefits as well as the therapeutic impact of limiting tablet strength availability.

Methodology. Patients who are newly starting warfarin will be enrolled to receive usual care (unlimited warfarin tablet strengths), or warfarin limited to 1mg and 5mg tablet strengths. Randomization will occur based on anticoagulation clinic location: the intervention cohort will include patients from our Murfreesboro campus and control cohort will include patients from our Nashville campus. The primary endpoint of patients' understanding will be assessed using the Med Take Tool. Secondary outcomes to be measured are 1)time in therapeutic range 2)adverse events 3)dosing errors and 4) economic outcomes. Outcomes will be assessed using manual data extraction from an internal electronic record system. Patients will be followed for 6 months and data pull will occur every 3 months.

Results. I am currently in data collection phase for results.

Conclusion. Pending

Presentation Objective. Be able to understand and recognize the significance of limiting warfarin tablets to two strengths as compared to all strengths**.**

Self-assessment Question. Are patients better able to understand their warfarin regimens when therapy options are limited to two tablet strengths?

Friday, April 22
Session V

Room 123

12:40 **Dixon, Caitlin – PGY1 Managed Care Pharmacy**
BlueCross BlueShield of Tennessee – Chattanooga, TN
ASSESSING BEHAVIORAL HEALTH CO-MORBIDITIES IN MEMBERS WITH OPIOID DEPENDENCE ENROLLED IN A COMMERCIAL HEALTH PLAN

1:00 **Moore, Sarah Beth – PGY2 Internal Medicine**
VAMC Memphis
MORTALITY RISK ASSOCIATED WITH METHICILLIN-RESISTANT AND METHICILLIN-SENSITIVE STAPHYLOCOCCUS AUREUS BACTEREMIA

1:20 **Mancarella, Taryn – PGY2 Pediatric Critical Care**
Le Bonheur Children's Hospital – Memphis, TN
IMPACT OF A MODIFIED PAIN REGIMEN ON PATIENTS UNDERGOING THE NUSS PROCEDURE FOR CORRECTION OF PECTUS EXCAVATUM

1:40 **Narramore, Whitney - PGY2 Ambulatory Care**
Lipscomb University College of Pharmacy – Nashville, TN
IMPLEMENTATION AND EVALUATION OF ANNUAL WELLNESS VISITS (AWV) CONDUCTED BY A PHARMACIST IN A PRIMARY CARE CLINIC

2:00 **Hubbard, Lindsay – PGY2 Pediatric Critical Care**
Le Bonheur Children's Hospital– Memphis, TN
RISK FACTORS ASSOCIATED WITH DEVELOPMENT OF CHOLESTASIS IN INFANTS ON PROLONGED PARENTERAL NUTRITION

Room 215

12:40 **Guidry, Tommie Jo - PGY1 Pharmacy Practice**
VAMC Memphis
PREDICTION OF INVASIVE CANDIDIASIS IN A VETERAN POPULATION (PIVET): VALIDATION OF THE CANDIDA SCORE

1:00 **Cutshall, Brandon – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
EVALUATION OF HEART FAILURE THERAPY IN PATIENTS WITH END-STAGE RENAL DISEASE

1:20 **Taylor, Jade – PGY1 Pharmacy Practice**
North Mississippi Medical Center – Tupelo, MS
EVALUATION OF THE ACCURACY OF BODY WEIGHT COLLECTION IN HOSPITALIZED PATIENTS.

1:40 **Gross, Whitney – PGY1 Pharmacy Practice**
Methodist University Hospital – Memphis, TN
EVALUATION OF THE SAFETY IN MANAGEMENT OF HYPERTENSIVE URGENCY

2:00 **Hanley, Paul - PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Memphis
COMPARISON OF THE INCIDENCE OF NEPHROTOXICITY WITH VANCOMYCIN PLUS PIPERACILLIN-TAZOBACTAM VERSUS AN ALTERNATIVE BETA-LACTAM: A RETROSPECTIVE, NON-INFERIORITY, COHORT STUDY

Friday, April 22
Session V

Room 219

12:40 **Light, Michael – PGY1 General**
Baptist Memorial Hospital - Memphis, TN
EVALUATION OF EPOETIN USE IN CHRONIC KIDNEY DISEASE PATIENTS

1:00 **Elder, Katie – PGY1 Pharmacy Practice**
Regional One Health – Memphis, TN
EVALUATION OF VARIABLES FOR POTENTIAL IMPACT ON VANCOMYCIN PHARMACOKINETICS IN THERMAL AND INHALATIONAL INJURY

1:20 **Lake, Elizabeth – PGY1 Pharmacy Practice**
G.V. (Sonny) Montgomery VA Medical Center – Jackson, MS
ANTIPSYCHOTIC DUAL VERSUS MONOTHERAPY EFFECTS ON HOSPITAL ADMISSION RATES IN PATIENTS WITH BIPOLAR DISORDER AND SCHIZOPHRENIA

1:40 **Camp, Austin – PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Memphis
POSTOPERATIVE GLYCEMIC CONTROL IN THE CARDIOVASCULAR INTENSIVE CARE UNIT AFTER DISCONTINUATION OF A CONTINUOUS INSULIN INFUSION

2:00 **DesPortes, Krisma-Amor - PGY1 Pharmacy Practice**
G.V. (Sonny) Montgomery VA Medical Center – Jackson, MS
EFFECTS OF CANAGLIFLOZIN IN THE VETERAN POPULATION AT G.V. (SONNY) MONTGOMERY VA MEDICAL CENTER

Room 308

12:40 **Flynn, Kelsie – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
COMPARISON OF VENLAFAXINE AND DULOXETINE: MEASURING CLINICAL IMPACT OF TIME TO THERAPEUTIC EFFECT AMONG PATIENTS ACHIEVING THERAPEUTIC DOSING FOR PAIN.

1:00 **Kasper, Joanna – PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Memphis, Memphis, TN
EMPIRIC ANTIBIOTIC USE IN ONCOLOGY PATIENTS WITH FEBRILE NEUTROPENIA.

1:20 **Jing, Juliana – PGY1 Pharmacy Practice**
Baptist Memorial Hospital – Memphis, TN
RETROSPECTIVE ANALYSIS OF SIROLIMUS USE COMPARED WITH CALCINEURIN INHIBITOR USE IN HEART TRANSPLANT PATIENTS

1:40 **Doss, Emily – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
PRESCRIBING PATTERNS AND FOLLOW-UP PRACTICES OF DIRECT ORAL ANTICOAGULANTS WITHIN VA-TENNESSEE VALLEY HEALTHCARE SYSTEM (TVHS)

2:00 **DeFosse, Brooke – PGY1 Managed Care**
Tennessee Department of Mental Health and Substance Abuse Services/University of Tennessee Health Science Center – Hermitage, TN
EVALUATION OF THE APPROPRIATE USE OF GABAPENTIN IN A STATE PSYCHIATRIC HOSPITAL

Friday, April 22
Session V

Room 315

12:40 **Sehli, Faisal – PGY1 Pediatrics**
Le Bonheur Children's Hospital – Memphis, TN
IMPACT OF PHARMACIST INVOLVEMENT IN THE DISCHARGE COUNSELING PROCESS: PILOT STUDY IN A PEDIATRIC INSTITUTION

1:00 **White, Bryan – PGY2 Infectious Disease Pharmacy**
University of Mississippi Medical Center – Jackson, MS
MECHANISMS OF FOSFOMYCIN RESISTANCE IN CARBAPENEM RESISTANT ENTEROBACTER SP.

1:20 **Childers, Rachel – PGY1 Pharmacy Practice**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
METABOLIC MONITORING FOR PATIENTS ON SECOND-GENERATION ANTIPSYCHOTICS IN A VA SETTING

1:40 **Langley, Katie – PGY2 Critical Care**
University of Mississippi Medical Center – Jackson, MS
HEMODYNAMIC EFFECTS OF PROPOFOL VERSUS DEXMEDETOMIDINE FOR SEDATION DURING MECHANICAL VENTILATION IN ADULT MEDICAL AND SURGICAL INTENSIVE CARE UNITS

2:00 **Forkum, William - PGY2 Ambulatory Care**
VA Tennessee Valley Healthcare System – Murfreesboro, TN
EVALUATION OF AMBULATORY CARE SENSITIVE CONDITION HOSPITALIZATIONS UTILIZING THE VETERANS AFFAIRS (VA) STRATEGIC ANALYTICS FOR IMPROVEMENT AND LEARNING (SAIL) MODEL: PART 2

Assessing Behavioral Health Co-Morbidities in Members with Opioid Dependence Enrolled in a Commercial Health Plan

Caitlin Dixon, BlueCross BlueShield of Tennessee, Chattanooga, TN

Background/Purpose: The use of opioid prescription medications has been an important topic within healthcare for several years. National and state governments are striving to decrease the utilization of narcotics that may lead to dependence and abuse. According to one report by ABC News, the United States consumes 80% of all opioids prescribed worldwide. The purpose of this project is to determine the prevalence of behavior health conditions in those members with diagnosed with opioid dependence or abuse and analyze the need for behavioral health management for those members with opioid dependence or abuse.

Methodology: Members with a diagnosis of opioid abuse, dependence, or poisoning between October 1, 2014 and September 30, 2015 were identified using ICD 9 codes. Study subjects identified during the index period were analyzed to determine the presence of co-morbid behavioral health diagnoses including anxiety, dependence/abuse of non-opioid substances, depression, personality disorders, psychosis, reaction disorder, and schizophrenia. Members with a diagnosis of cancer and/or enrolled in hospice during the study year were excluded.

Results: A total of 7,167 unique members were identified as having opioid dependence, abuse, and/or poisoning during the study period. The mean age was 39.7 years and 56.7% were male. Of those members, 96.7% had a diagnosis of some type of opioid dependence. During the study period, 2,927 (40.9%) unique members were found to have at least concurrent diagnosis of some type of behavioral health disorder.

Conclusions: Preliminary results indicate that opioid dependence, abuse, and poisoning events and behavioral health conditions can occur simultaneously.

Presentation Objective: To discuss the prevalence of specific behavior health conditions in members with an opioid dependence diagnosis enrolled in a statewide commercial health plan.

Self-Assessment Question: Why are major health plans focusing on opioid prescribing, dependence, and abuse? (a) the increase in opioid prescribing (b) federal and state government push (c) the increase in opioid-related deaths (d) all of the above

Mortality Risk Associated with Methicillin-resistant and Methicillin-sensitive *Staphylococcus aureus* Bacteremia

Sarah Beth Moore, Theodore H. Morton
Memphis Veterans Affairs Medical Center - Memphis, Tennessee

Background/Purpose: *Staphylococcus aureus* bacteremia (SAB) is associated with poor patient outcomes including septic shock, recurrent infections, increased hospital length of stay, and death. Some studies suggest that the mortality associated with methicillin-resistant *S. aureus (MRSA)* bacteremia is about twice that of methicillin-sensitive *S. aureus (MSSA)* bacteremia. However, multiple patient factors have been associated with increased mortality including, advanced age, increasing number and types of comorbidities, clinical severity of bacteremia and appropriate selection of antimicrobial agents for empiric treatment and definitive treatment. Also in *MRSA* bacteremia, the minimum inhibitory concentration (MIC) breakpoint of 2 mcg/mL is an important factor in determining the appropriateness of continued vancomycin therapy, as increased MICs have been associated with increased mortality as well as prolonged bacteremia. The purpose of this study is to describe morbidity and mortality of Memphis VAMC patients with SAB, both *MSSA* and *MRSA* further stratified by severity of illness, vancomycin MIC, and appropriateness of antibiotic therapy for empiric and definitive treatment.

Methodology: This study is a retrospective analysis of computerized medical records for patients at the Memphis VAMC with SAB. Records will be reviewed to determine patient mortality rates at hospital discharge and at 30 days post first positive blood culture for *MSSA* and *MRSA* bacteremia stratified by 1) patient severity of illness, 2) organisms' MIC to vancomycin and 3) antibiotic therapy (both empiric and definitive). Additional data collected include patient demographics, comorbidities, SAB presumed source, and dates of hospital and ICU admission and discharge.

Results: Pending

Conclusions: Pending

Presentation Objective: To identify controversies in SAB management and describe clinical outcomes in a veteran population**.**

Self-Assessment Question: What risk factors have been associated with increase mortality in SAB?

Impact of a modified pain regimen on patients undergoing the Nuss procedure for correction of pectus excavatum

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Le Bonheur Children's Hospital and The University of Tennessee Health Science Center
Memphis, TN

Background/Purpose:

Pectus excavatum is the most common congenital chest wall deformity, occurring in approximately 1 in 400 live births in the US. Moderate to severe deformities, defined by the Haller index, may be corrected surgically. Several surgical techniques have been utilized to correct this deformity, including the Nuss procedure. The Nuss procedure is a minimally invasive technique in which a convex bar is placed under the sternum without having to resect cartilage. This procedure offers many advantages over more invasive methods, however pain management postoperatively has been a challenge and there are several different strategies reported. The purpose of this study is to determine the impact of the implementation of a new pain regimen at our institution on pediatric patients undergoing the Nuss procedure for correction of pectus excavatum.

Methodology:

Data from a retrospective cohort will be assessed from patients who underwent the Nuss procedure between June 2010 and March 2016. Two cohort groups will be matched based on age, sex and haller index-one containing patients who received an epidural for post-op pain management and the other containing patients who received a patient controlled analgesia (PCA) device, along with scheduled and as needed pain medications according to a protocol implemented at our institution starting in June 2014. The medical record of each patient will be reviewed to collect information on demographics, operative times, pain scores and medications administered for pain postoperatively. The primary outcome is to determine the impact of the new pain regimen on hospital length of stay. Secondary outcomes include impact on post-operative pain scores, operating room times and total amount of opioids administered. The study protocol was approved by the institutional review board at the University of Tennessee Health Science Center.

Results: To be determined

Conclusions: To be determined

Presentation Objective: To determine the impact of a modified pain regimen in patients undergoing the Nuss procedure.

Self-Assessment Question: Is the length of stay different between patients that received an epidural vs. a PCA for post-operative pain management?

Title

Implementation and Evaluation of Annual Wellness Visits (AWV) Conducted by a Pharmacist in a Primary Care Clinic

Whitney Narramore, Benjamin Gross, Chad Gentry
Affiliation: Lipscomb University College of Pharmacy
City and state: Nashville, TN

Background

In 2011, a provision to the Patient Protection and Affordable Care Act of 2010 established Medicare Annual Wellness Visits (AWV), which is a covered service that can be provided annually to promote wellness and prevention. A variety of healthcare personnel can provide this service including pharmacists. The purposes of this project are to implement and evaluate the benefit of a pharmacist conducted AWV in a primary care clinic. This pilot project is in collaboration with one internal medicine physician in a multi-specialty group.

Methodology

For this Institutional Review Board approved study, a health risk assessment will be conducted and a personal prevention plan given to each patient. The screenings that will be completed at each visit include depression, fall risk, hearing assessment, cognitive function, and medication adherence. The target population was determined from a generated list of all Medicare patients in the practice. From the list, patients were excluded if they had HealthSpring insurance and were not patients of the collaborating provider of the project. Prior to scheduling a visit, verification that a patient has not had one of the two AWV's G-codes (G0438/G0439) billed in the last year will be completed. The primary outcome of this project is revenue generation. Other specific aims include determining the pharmacist role in this service by improvement of medication reconciliation, continuity of care, and the frequency and nature of the interventions made.

Results

Medicare patients in the practice totaled 8,926 with 2,146 excluded based on having HealthSpring insurance. The collaborating provider on this pilot project had 902 eligible patients.

Presentation Objectives

1. List the patient eligibility criteria for a Medicare Annual Wellness Visit.

Self-Assessment Question

1. What are the patient eligibility criteria to adequately bill for an Annual Wellness Visits? (Select all that apply.)
    a. Patient has Medicare insurance
    b. Had Medicare for longer than 1 year
    c. Patient has received an AWV within the past year
    d. Patient has had Welcome to Medicare visit within the past year

RISK FACTORS ASSOCIATED WITH DEVELOPMENT OF CHOLESTASIS IN INFANTS ON PROLONGED PARENTERAL NUTRITION

Lindsay Hubbard, Oscar Herrera, Catherine Crill, Michael Christensen
The University of Tennessee Health Science Center and Le Bonheur Children's Hospital
Memphis, Tennessee

Background/Purpose: Parenteral nutrition has a significant impact on ensuring adequate growth and development among infants unable to receive enteral nutrition. However, parenteral nutrition does place the patient at risk for complications, especially with prolonged therapy. Long-term parenteral nutrition administration has been associated with the risk of cholestasis. It has been hypothesized that the dose of lipids, protein, and dextrose may contribute to cholestasis development. Cholestasis can lead to serious complications including parenteral nutrition associated liver disease (PNALD), hepatic fibrosis, fulminant liver failure, and even death. Treatment strategies for patients who develop cholestasis at our institution often include any combination of medications, lipid restriction, parenteral nutrition cycling, and enteral feedings as tolerated. The objective of this study is to determine the incidence of cholestasis at our institution and evaluate the impact of macronutrient dosing on the development of cholestasis in infants on prolonged parenteral nutrition.

Methodology: This is a retrospective chart review conducted on all infants receiving parenteral nutrition at Le Bonheur Children's Hospital between January 1, 2010-December 31, 2015. To be included, patients must be less than 12 months of age and have received parenteral nutrition for ≥30 days. Patients who received ECMO or diagnosed with primary hepatobiliary disease will be excluded. The primary endpoint is the incidence of parenteral nutrition associated liver disease in infants on prolonged parenteral nutrition therapy. Secondary endpoints will include the association of macronutrient dosing in relation to cholestasis development. Clinical factors leading to onset and resolution of cholestasis will also be assessed as secondary endpoints. Other data extracted include demographics, parenteral nutrition indication, length of parenteral nutrition therapy, and enteral feeding initiation.

Results: Pending

Conclusions: Pending

Presentation Objective: To determine the incidence of cholestasis and evaluate the impact of macronutrient dosing on the development of cholestasis in infants on prolonged parenteral nutrition.

Self-Assessment Question: What macronutrient(s) affects the incidence of parenteral nutrition associated liver disease in infants on prolonged parenteral nutrition?

Prediction of Invasive Candidiasis in a Veteran Population (PIVET): Validation of the Candida Score

Tommie Jo Guidry, Amanda Gillion, Steven A. Woods, Whitney V. Elliott
Veterans Affairs Medical Center – Memphis, TN

Background/Purpose: Invasive Candidiasis (IC) is associated with mortality rates of ~40% with *Candida* as the fourth leading cause of blood stream infections. Of the available scoring systems, the Candida Score (CS) has the highest sensitivity and specificity for detecting IC. Previous studies demonstrated patients with a CS < 3 had an incidence of IC of ~2.3% compared to 13.8% in those with a score of ≥ 3. The CS has not been validated in either a North American or veteran population. The primary objective of this study was to determine the ability of the CS to predict IC in a veteran population.

Methods: The study was a retrospective observational analysis of patients admitted to the MICU or SICU within a five year period at the Memphis Veterans Affairs Medical Center (VAMC) for ≥ 7 days with the ICD-9 code of sepsis, severe sepsis, or septic shock. Baseline data was collected as well as microbiology culture data during ICU admission. The CS was calculated on days zero, three, and eight of ICU admission. APACHE II scores were calculated at the time of ICU admission, sepsis diagnosis (if different than ICU admission), and initiation of antifungals. Data was collected to determine the incidence of IC, crude mortality relative to national averages, the incidence of *Candida albicans* versus non-*Candida albicans* species in patients with confirmed IC, and the time to initiation of antifungals and its relationship to mortality.

Preliminary Results: Out of 40 patients who met inclusion criteria, 3 were determined to have IC. The majority of patients with IC (67%) had a CS ≥ 3. The overall ICU mortality rate was 58% in comparison to 67% in patients with IC. Data collection ongoing.

Preliminary Conclusion: The CS may be an accurate predictive tool for IC in a veteran population based on preliminary results.

Presentation Objective: To assess the validity of the CS in a veteran population.

Self Assessment Question: Does the CS accurately predict the risk of IC in a veteran population?

Evaluation of Heart Failure Therapy in Patients with End-Stage Renal Disease

B. Tate Cutshall, Benjamin Duhart, Michael Samarin, Lydia Hutchison, Joanna Q. Hudson
Methodist Le Bonheur Healthcare – University Hospital
Memphis, TN

Background/Purpose: The 2013 ACCF/AHA Heart Failure Guidelines state that all patients with heart failure that have a reduced ejection fraction (HFrEF) less than 40% require either angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin receptor blocker (ARB) in combination with an indicated beta-blocker (BB). Due to a paucity of data, it has been questioned whether these guidelines apply to end-stage renal disease (ESRD) patients. The purpose of this study was to evaluate outcomes of HF therapy in patients with HFrEF and ESRD requiring dialysis.

Methodology: This was a retrospective study of HF therapy in ESRD patients diagnosed with HFrEF and admitted to a tertiary-care teaching hospital. Patients were excluded if they were newly diagnosed with ESRD, had a length of stay (LOS) less than 3 days, or were admitted directly to the intensive care unit. The LOS, in-hospital mortality, and 30-day hospital readmissions were compared for patients receiving treatment with an ACEI/ARB, an indicated BB, or both (Group 1) compared to no therapy (Group 2).

Results: To date, over 1,000 patient visits have been reviewed to include 75 patients: Group 1 (n=49), Group 2 (n=26). Demographics are similar between groups: group 1 mean age 59 ± 12 years, 61% male, 88% African American; group 2 mean age 66 ± 11 years, 65% male, 85% African American. The LOS of Group 1 as compared with Group 2 is 7.4 ± 4.1 days vs. 8.5 ± 5.5 days. Thirty-day hospital readmission and in-hospital mortality of Group 1 compared with Group 2 is 31% vs 19% and 12% vs 8%, respectively.

Conclusions: Preliminary data suggest some differences in outcomes may exist based on HF treatment, but further analysis of data is warranted.

Presentation Objective: To evaluate HF therapy and differences in outcomes based on treatment in patients with ESRD requiring dialysis.

Self-assessment question: Does treatment with an ACEI/ARB, an indicated BB, or both improve outcomes in HFrEF and ESRD patients compared to those not receiving therapy?

EVALUATION OF THE ACCURACY OF BODY WEIGHT COLLECTION IN HOSPITALIZED PATIENTS

Jade Taylor, Jon Arnold

North Mississippi Medical Center

Tupelo, MS

Background/Purpose: Many treatments and medications prescribed in the hospital are dosed based on the patient weight. Accuracy in weight collection and documentation is vital to ensure appropriate doses are given. At North Mississippi Medical Center (NMMC), unit based pharmacists evaluate patients on their assigned units daily and rely on accurate data in the electronic medical record (EMR) to guide medication interventions. The purpose of this study is to determine if there is an issue with collection and reporting of weights in the EMR and, if so, the impact on dosing of weight-based medications.

Methodology: Data were collected retrospectively using an electronic medical record for 150 patients admitted for ≥ 2 days to a specified general medical unit at NMMC during a 5 week period. Excluded patients were those who were pregnant, < 18 years old, or receiving hemodialysis. Data collection included all documented daily weights, any consecutive weight changes > 5% (in kg), and calculated creatinine clearance for all consecutive weight changes > 5%. Prescribed medications during the 5 week period were reviewed to determine if any necessary dosing changes were made by the unit based pharmacist based on the documented patient weight.

Results: Pending

Conclusions: Pending

Presentation Objectives: To discuss the accuracy and consistency of body weight collection methods and documentation in hospitalized patients and to evaluate the effects of medication dosing changes, if any, that occur due to varying weights documented in patients' EMAR.

Self-Assessment Question: What are examples of commonly occurring documentation errors when entering patient weight into an electronic medical record?

Evaluation of the Safety in Management of Hypertensive Urgency

Whitney Gross, Anna Jacobs, Jacob Marler, Carrie Oliphant
Methodist LeBonheur Healthcare
Memphis, TN

Background/Purpose: Hypertensive crisis, defined by systolic blood pressure ≥180 and/or diastolic blood pressure ≥120mmHg, may be classified as either emergency or urgency with emergency resulting in acute vascular damage of vital organs. The JNC 7 Report defines blood pressure lowering goals for hypertensive emergency; however treatment goals for hypertensive urgency are not as clear. Given the lack of specific recommendations for hypertensive urgency, the purpose of this study was to describe the blood pressure lowering and safety of chosen medication regimens in hospitalized patients.

Methodology: Patients admitted to an adult hospital within the Methodist LeBonheur Healthcare system with a diagnosis of hypertensive urgency were reviewed retrospectively. Potential treatment regimens within the first 6 hours were compared among groups (Group 1: Intravenous (IV) intermittent PRN; Group 2: IV continuous; Group 3: oral intermittent PRN; Group 4: combination). The primary objective was to compare treatment regimens by a mean arterial pressure (MAP) lowering of ≤ 25% within the first 6 hours to a MAP lowering of > 25% within the first 6 hours.

Results: To date, 630 patients have been screened to include 76 patients. The rate of MAP lowering by > 25% within the first 6 hours was: 53.3% (n=15) in group 1, 0% (n=1) in group 2, 51.7% (n=29) in group 3, and 54.8% (n=31) in group 4. One patient in the combination therapy group achieved a MAP <70 and systolic blood pressure <90 mmHg within 6 hours. Of the observed adverse events, acute kidney injury was most common, occurring in 17.2% of patient in group 3 and 12.9% in group 4.

Conclusions: To date, more than 50% of subjects had aggressive MAP lowering in all but one treatment group. Final data analysis and conclusions will be presented.

Presentation Objective: Describe treatment regimens utilized to treat hypertensive urgency and the safety of these medication regimens.

Self-assessment question: Which treatment group had the highest rate of MAP decrease by more than 25% within the first 6 hours?

Comparison of the incidence of nephrotoxicity with vancomycin plus piperacillin-tazobactam versus an alternative beta-lactam: A retrospective, non-inferiority, cohort study

Paul Hanley, Zachary Brent, Kristina Schatz, Athena Hobbs
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Memphis, TN

Background/Purpose: Acute kidney injury (AKI), a syndrome characterized by impaired renal function, is associated with significant morbidity and mortality. The use of nephrotoxic medications may contribute to AKI; one of the most notorious of which is arguably vancomycin. Previous literature and anecdotal observation of an increased incidence of nephrotoxicity with the combination of vancomycin and piperacillin-tazobactam at Baptist Memorial Hospital – Memphis (BMH-Memphis) inspired this study. Study investigators hypothesized that there is a significant increase in the incidence of AKI with the combination of vancomycin plus piperacillin-tazobactam versus vancomycin plus another beta-lactam antibiotic.

Methodology: This was a single center, retrospective, non-inferiority, cohort study including 240 critically ill patients treated with a combination of vancomycin plus piperacillin-tazobactam or vancomycin plus another beta-lactam at BMH-Memphis from April 1, 2014 to January 25, 2016. To achieve 80% power, 120 patients were included per group. The primary objective of this study was to determine if there is a significant difference in the incidence of AKI between the two groups. The secondary objective was to assess the role of confounding variables including vancomycin dose, trough concentration, and concomitant nephrotoxins on the development of AKI.

Results: Twenty-one patients (17.5%) in the piperacillin-tazobactam group developed acute kidney injury compared to 8 patients (6.7%) in the alternative beta-lactam group (p=0.01). Results of the secondary objective will be discussed during the presentation.

Conclusion: In critically ill patients at BMH-Memphis, the combination of vancomycin and piperacillin-tazobactam was associated with a significantly higher incidence of AKI compared to vancomycin plus an alternative beta-lactam.

Presentation Objective: Compare the incidence of AKI in patients treated with the combination of vancomycin and piperacillin-tazobactam versus vancomycin and another beta-lactam.

Self-Assessment Question: The combination of vancomycin plus piperacillin-tazobactam was associated with which of the following compared to vancomycin plus an alternative beta-lactam?

Evaluation of Epoetin Use in Chronic Kidney Disease Patients

Michael Light, Ginger Burton, Margaret Beaugh, Amy Brewster
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Background/Purpose: Anemia is a frequent complication in patients with chronic kidney disease (CKD), affecting approximately 840,000 Americans. Erythropoietin promotes the proliferation and differentiation of erythroid progenitor cells in the bone marrow and stimulates the production of red blood cells. In CKD, erythropoietin production is diminished due to the loss of kidney function, leading to anemia of CKD. Improper use of epoetin can place patients at high risk for thromboembolic events and potentially increase mortality. These complications may result in increased hospitalizations and healthcare costs. Kidney Disease: Improving Global Outcomes (KDIGO) issued guidelines in 2012 to assist with anemia and epoetin management. An initial epoetin dose of 50-100 units/kg was recommended.

Methodology: A single center, retrospective chart review was conducted in patients with a diagnosis of CKD, with or without hemodialysis, who received epoetin at Baptist Memorial Hospital between April 1, 2014–September 15, 2015. Patients were excluded based on the following criteria: age <18 years, pregnancy, oncology diagnosis, zidovudine associated anemia, blood transfusion within three months of treatment, or major surgery within thirty days of receiving epoetin. CKD patients were divided into two groups based on whether epoetin was a new start (n=100) or continuation of outpatient maintenance therapy (n=100). Data collected included epoetin dose received, hemodialysis status, hemoglobin and iron studies, epoetin dose adjustments based on hemoglobin response, cumulative iron dose (if received), blood pressure controlled at time of epoetin dose, patient demographics, thirty day readmission, cost of therapy, thromboembolic events, and the ordering physician.

Results: Pending

Conclusions: Pending

Presentation Objective: To examine epoetin dosing and monitoring in CKD patients in accordance with guideline recommendations.

Self Assessment Question: What effect does incorrect epoetin dosing have on CKD patients?

Evaluation of variables for potential impact on vancomycin pharmacokinetics in thermal and inhalational injury

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Memphis, TN

Background/Purpose: Burn patients have been shown to have higher rates of infection compared to other patients in intensive care units. These infections are commonly caused by gram positive bacteria, specifically staphylococcus aureus. Vancomycin is frequently chosen for empiric coverage or treatment of gram positive infections. It has been shown that burn patients may require higher, more frequent doses due to increased drug clearance and volumes of distribution, specifically vancomycin. The evident hyper-dynamics adds difficulty to achieving therapeutic vancomycin troughs. There is not a universally accepted vancomycin dosing strategy in burn patients secondary to remarkable intra and inter-patient variability. Several patient and injury factors have been proposed to explain the variability, but proof is lacking. Previous trials have targeted lower troughs than currently recommended, included few patients, or failed to discern variables that may attribute to the known variability. Currently, the only consensus among studies is to monitor closely and individualize dosing based on individual pharmacokinetics. The purpose of this study is to characterize the pharmacokinetics of thermal or inhalational injury and evaluate our initial dosing by assessing attainment of goal troughs.

Methodology: This study was a retrospective, observational study. Patients admitted to the Firefighters' Burn Center between October 20, 2012 – November 30, 2015 and received intravenous vancomycin during their stay were included. Patients were excluded if there was no presence of burn or inhalational injury, vancomycin was started less than 48 hours from injury, did not have at least one pair of peak and trough levels, levels drawn were not at assumed steady state, or levels could not be evaluated. Only levels drawn during the first course of therapy were evaluated. Patient demographics and course data was collected using the institution's electronic medical record.

Results: Pending

Conclusions: Pending

Presentation Objective: Discuss the factors that can affect the pharmacokinetics of vancomycin in patients with thermal or inhalational injury.

Self Assessment Question: What factors should be considered when dosing intravenous vancomycin in patients with thermal or inhalational injury?

Antipsychotic Dual Versus Monotherapy Effects on Hospital Admission Rates in Patients with Bipolar Disorder and Schizophrenia

Meghan Norris, Elizabeth Lake
G.V. (Sonny) Montgomery Veterans Affairs Medical Center (VAMC)
Jackson, MS

Background/Purpose: Nearly 1.5 billion people worldwide are living with schizophrenia or bipolar disorder. Both diseases lead to marked decreased quality of life for those affected, and impose a significant financial burden for the healthcare community. In an effort to treat these patients, dual antipsychotics are often prescribed; however, this practice is only recommended as a last line option in current guidelines, and has the potential to lead to multiple adverse effects, drug-drug interactions, and increased costs. This study aims to determine if there is a significant difference in hospital admission rates when patients are administered dual antipsychotic therapy over monotherapy in the veteran population at the G.V. (Sonny) Montgomery VAMC.

Methodology: A retrospective chart review was conducted using the Veterans Administration's Computerized Patient Record System (CPRS) to identify patients who were prescribed at least one antipsychotic between September 1, 2012 and September 30, 2014. The primary aim of this study is to determine if dual antipsychotic therapy differs from monotherapy based on average number of inpatient psychiatric-related hospital admissions in patients with schizophrenia or bipolar disorder. The secondary aims are twofold: 1) to determine if adherence to dual antipsychotic therapy differs from monotherapy based on medication possession ratio (MPR), and 2) to determine if patients on dual antipsychotics differ from patients on monotherapy in the assumed average maintenance dose per day of the antipsychotic, as measured by the defined daily dose (DDD).

Results: Pending

Conclusion: To be presented

Presentation Objective: Determine if dual-antipsychotic therapy is associated with fewer average number of hospital admissions versus monotherapy.

Self-Assessment Question: If prescribing dual antipsychotics, what are the added risks to consider, and do they outweigh the potential benefits?

POSTOPERATIVE GLYCEMIC CONTROL IN THE CARDIOVASCULAR INTENSIVE CARE UNIT AFTER DISCONTINUATION OF A CONTINUOUS INSULIN INFUSION

Austin Camp, Maria Zhorne, Dawn Waddell
Baptist Memorial Hospital – Memphis
Memphis, TN

Background/Purpose: Postoperative hyperglycemia in cardiac surgery patients is associated with an increase in hospital length of stay, intensive care unit length of stay, ventilator requirements, risk of sternal wound infections, and mortality. At Baptist Memorial Hospital – Memphis, blood glucose (BG) is typically well-controlled (100-150 mg/dL) in the postoperative period in the cardiovascular intensive care unit (CVICU) utilizing a continuous insulin infusion protocol (CIIP). Currently at Baptist Memorial Hospital – Memphis, there is no protocol to aid in the transitioning from a CIIP to a subcutaneous regimen.

Methodology: A retrospective chart review was conducted of patients admitted to the CVICU after undergoing a coronary artery bypass graft (CABG) and/or aortic valve replacement (AVR), mitral valve replacement (MVR), or transcatheter aortic valve replacement (TAVR). Exclusion criteria included mortality within 48 hours after the discontinuation of the CIIP, if the patient was taken back to surgery, or if the patient did not receive a CIIP. Data was collected for the following three timeframes: the last 24 hours on the CIIP, the first 24 hours after the discontinuation of the CIIP, and the second 24 hours after the discontinuation of the CIIP. The primary endpoint of the study was BG control. Secondary endpoints included hospital length of stay, CVICU length of stay, infection, and mortality. Safety endpoints included the incidence of hypoglycemia (≤70 mg/dL) and severe hypoglycemia (≤40 mg/dL). Data collected included demographic information, type of cardiac surgery, diabetic status, A1c, BG, total insulin received, types of insulin used, total time on CIIP, oral antihyperglycemic use, corticosteroid use, diet, hospital length of stay, CVICU length of stay, endocrinology consult, infection, and mortality.

Results: Pending.

Conclusions: Pending.

Presentation Objective: To determine if there is a difference in BG control in CVICU patients who have undergone a CABG and/or AVR, MVR, or TAVR before and after the transition from a CIIP to a subcutaneous insulin regimen.

Self-Assessment Question: Is there a difference in BG control before and after discontinuation of a CIIP?

Effects of Canagliflozin in the Veteran Population at G.V. (Sonny) Montgomery VA Medical Center

Krisma DesPortes, Robert Lehmann
G.V. (Sonny) Montgomery Veterans Affairs Medical Center (VAMC)
Jackson, MS

Background/Purpose: Nearly 25% of Veterans are diagnosed with diabetes, and their mortality rate averages approximately 5% per year. Invokana (canagliflozin) is the first Sodium Glucose co-transporter 2 (SGLT2) inhibitor marketed in the U.S. and is one of two medications in that class available through the VA as a non-formulary medication. This study aims to evaluate the safety and efficacy of canagliflozin use in the veteran population at the G.V. (Sonny) Montgomery VAMC.

Methodology: A retrospective chart review was conducted using the Veterans Administration's Computerized Patient Record System (CPRS) to identify patients who have a history or an active outpatient prescription of canagliflozin. The primary aim of this study is to quantify the difference in HbA1c pre and post treatment with canagliflozin. The secondary aim is to quantify the changes in blood pressure, weight, BMI, lipid panel, and incidences of mycotic infections, urinary tract infections, bone fractures, and emergency room or inpatient hospitalizations related to diabetes post treatment with canagliflozin.

Results: Pending

Conclusion: Pending

Presentation Objective: Quantify the changes in A1c, weight, BMI, blood pressure, and lipid panel, and further evaluate the incidence of mycotic infections, urinary tract infections, bone fractures, and emergency room or inpatient hospitalizations related to diabetes post treatment with canagliflozin.

Self-Assessment Question: Is canagliflozin a safe and effective medication in the Veteran population?

Title: Comparison of venlafaxine and duloxetine: measuring clinical impact of time to therapeutic effect among patients achieving therapeutic dosing for pain.

Authors: Kelsie Flynn[1]; Timothy Atkinson[1]; Jennifer Baker[1,2],
1. VA Tennessee Valley Healthcare System Nashville/Murfreesboro, 2. University of Tennessee College of Pharmacy, Nashville, TN

Background/Purpose: Clinical trials have shown serotonin-norepinephrine reuptake inhibitors (SNRIs), venlafaxine and duloxetine, to be equally efficacious in the treatment of neuropathic pain. However, due to differences in receptor affinity and tolerability, titration schedules differ greatly. Current literature assessing time to therapeutic effect is limited; no head-to-head studies have been conducted. In addition, no data is available on the percent of patients that achieve therapeutic doses in clinical practice. The objective of this study is to determine if there are differences in the percent of patients that are successfully titrated to therapeutic doses and the clinical impact of time required for titration.

Methodology: This study was submitted to the Institutional Review Board and approved as QA/QI. Utilizing the Veterans Integrated Service Network 9 data warehouse all veterans with new start prescriptions for either venlafaxine or duloxetine between January 1, 2011 and January 1, 2014 were identified and the following data extracted: age, gender, weight, height, race, comorbidities, prescriber, and concomitant antidepressants and anticonvulsants therapy on date of initiation. Manual data collection through the Computerized Patient Record System (CPRS) will be utilized to determine veteran eligibility, excluding those with previous trial of same SNRI within 5 years and/or non-pain indication for venlafaxine or duloxetine initiation. Manual reviews will also be conducted to determine if therapeutic dose was achieved and time required for titration, as well as discontinuation rates and cause.

Results: Pending

Conclusions: Pending

Presentation Objective: To evaluate the clinical impact of the time to titration and percentage of patients those successfully achieve therapeutic doses.

Self-Assessment Question: What are the minimum therapeutic doses for venlafaxine and duloxetine in the treatment of neuropathic pain?

Empiric antibiotic use in oncology patients with febrile neutropenia

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Background/Purpose: Febrile neutropenia (FN) after chemotherapy is considered an oncologic emergency for patients with malignancy and requires immediate empiric antibiotic therapy. Local epidemiology and prophylactic antibiotic prescribing practices influence the spectrum of organisms seen within this patient population. Therefore, individual institutions should preform periodic surveys to ensure optimal empiric treatment is prescribed. This research aims to address antimicrobial stewardship and quality improvement for the empiric treatment of FN in high-risk oncology patients being admitted to Baptist Memorial Hospital-Memphis (BMH-M).

Methodology: Data was collected retrospectively from electronic medical records for patients admitted with febrile neutropenia (based on the infectious Diseases Society of America (IDSA) definition) between April 1, 2014 and September 24, 2015. Data collected: demographics; allergies; calculated Multinational Association for Supportive Care in Cancer (MASCC) risk index score; type of cancer; chemotherapy administered; time since last treatment; number, type, and site of cultures obtained; culture results; antibiotics and antifungals ordered and administered; time of documented fever; patient reported fever prior to admission; and duration of neutropenia.

Results: To be presented

Conclusions: To be presented

Presentation Objective: To determine the appropriateness of empiric antibiotic selection in oncology patients admitted to BMH-M with febrile neutropenia.

Self-Assessment Question: Which of the following antibiotics are appropriate empiric treatments for patients admitted with FN?

RETROSPECTIVE ANALYSIS OF SIROLIMUS USE COMPARED WITH CALCINEURIN INHIBITOR USE IN HEART TRANSPLANT PATIENTS

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Background/Purpose: The use of sirolimus in heart transplant patients has increased at Baptist Memorial Hospital-Memphis. The objective of this study is to evaluate the change in renal function from baseline among heart transplant patients taking sirolimus versus calcineurin inhibitors (i.e. cyclosporine or tacrolimus). The primary endpoint is the change in renal function from baseline to 1 year after sirolimus or calcineurin inhibitor initiation. Secondary endpoints are incidence of mortality, incidence of rejection, incidence of infection, and adverse effects among heart transplant patients taking sirolimus and/or calcineurin inhibitors.

Methodology: This is a single center, retrospective chart review study. Patients included will be those who have received a heart transplant at Baptist Memorial Hospital- Memphis between 1/1/2010 to 9/30/2015. We will compare three groups of patients- a sirolimus group, a sirolimus + calcineurin inhibitor group, and a calcineurin inhibitors group. Serum creatinine will be collected, along with documentation of any proteinuria. Incidence of rejection and evidence of cardiac allograft vasculopathy will be obtained. Incidence of infection, malignancy and mortality will also be collected. Additional values collected include low-density lipoprotein, evidence of thrombocytopenia, and evidence of uncontrolled diabetes.

Results: Pending

Conclusions: Pending

Presentation Objective: Recognize the different adverse effects reported in target-of-rapamycin inhibitors and calcineurin inhibitors.

Self-Assessment Question: What are some potential benefits of taking a target-of-rapamycin inhibitor?

Prescribing Patterns and Follow-up Practices of Direct Oral Anticoagulants within VA-Tennessee Valley Healthcare System (TVHS)

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Background/Purpose The advantages of direct oral anticoagulants (DOACs) are well known in comparison to vitamin K antagonists(VKA); however, less is known regarding appropriate laboratory monitoring parameters or number and timing of follow-up appointments needed after initiation of these medications. As DOACs have shorter half-lives than VKAs, patient adherence to the DOAC medication regimen is also important for prevention of thrombosis. This study seeks to evaluate current prescribing and follow up practices, rates of adverse events, and patient compliance rates with DOAC medications to ensure these medications are used correctly to provide maximum safety and efficacy.

Methodology This study has been approved by the Institutional Review Board. Data will be pulled from the Veterans Integrated Service Network 9 data warehouse identifying all veterans with new start prescriptions for dabigatran, rivaroxaban, apixaban, or edoxaban between January 1, 2014 and March 31, 2015. Baseline demographics including age, gender, and race will be electronically extracted with the initial list of patients. Patients will have data extracted electronically regarding dispensing of DOAC medication from VA-TVHS pharmacy, including name of medication, dosage, quantity ordered and instructions, what date the medication was initially prescribed and dispensed, as well as refill dates within the study period. Manual review of the computerized patient records system will also be used to obtain patient information including any ER visits, patient weight and serum creatinine at time of initiation, any changes in DOAC medication regimen, number of follow up visits, any laboratory measurements taken at follow up visits, and concomitant dosing of CYP3A4 or P-gp inhibitor. All data will be recorded without patient identifiers and maintained confidentially.

Results Currently in data collection phase.

Conclusions Pending.

Presentation Objective Evaluate differences in follow-up practices for DOACs in outpatient clinics.

Self-Assessment Question Do providers in cardiology clinics, anticoagulation clinics or primary care clinics monitor laboratory data related to DOACs more frequently at TVHS?

A. Cardiology clinics
B. Anticoagulation clinics
C. Primary care clinics

EVALUATION OF THE APPROPRIATE USE OF GABAPENTIN IN A STATE PSYCHIATRIC HOSPITAL

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Background/Purpose: Gabapentin, an FDA approved medication for treatment of epilepsy and postherpetic neuralgia, has increased usage for a wide range of off-label indications. Historically, gabapentin has been used with little concern because of the limited number of reported adverse effects and drug interactions. However, due to its central nervous system effects, recent studies suggest that gabapentin has become a common drug of abuse. Gabapentin also carries a warning for suicidal ideation which is a concern in the mental health population. A large majority of patients at the state psychiatric hospital have a history of substance abuse and or suicidal ideation and are concurrently receiving gabapentin for non FDA approved indications. The purpose of this study is to address the off-label use of gabapentin in acute care patients at a state mental health hospital, as well as its use in those patients with a history of substance abuse and suicidal ideation.

Methodology: In this retrospective medication use evaluation, a review of patient medical records was performed for patients admitted to the acute inpatient psychiatric units who were receiving gabapentin. Data collection on each patient was analyzed for appropriate use and dosage of gabapentin based on the patients documented indication and calculated creatinine clearance. Baseline patient data was evaluated to identify those patients that had a history of suicidal ideation or substance abuse.

Results: A total of 82 patients were actively being treated with gabapentin. Results of data analysis are pending and will be presented in full.

Conclusions: Conclusions are deferred pending results of data analysis.

Presentation Objective: Describe the pharmacological management of gabapentin and potential risk of use based on suicidal ideation and history of substance abuse.

Self-Assessment Question: Based on the presentation, or what you see in your practice, should the use of gabapentin be more closely monitored?

Impact of Pharmacist Involvement in the Discharge Counseling Process: Pilot Study in a Pediatric Institution

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Background/Purpose: Medications are a complicated part of the inpatient discharge process. Pharmacists play a critical role in ensuring discharge medications are correct and patients receive adequate counseling on their medications. Our hospital recently implemented a pilot program on a single unit whereby the patient care pharmacist is notified of discharges in order to provide medication counseling. Prior to this initiative, pharmacists had only been responsible for medication counseling on a limited number of medications. Barriers to counseling identified in the pilot program were timing of discharges, manpower needs to cover all discharges, lack of notification of discharges, and lack of knowledge on which medications pose problems for outpatient filling. Several interventions were made in order to improve the process and work toward the goal of counseling all patients being discharged. The purpose of this study is to compare outcomes between the initial and the intervention periods of the program.

Methodology: This is a single-center, pilot quality improvement study conducted from January through April 2016 at Le Bonheur Children's Hospital, a 255-bed teaching hospital affiliated with the University of Tennessee Health Science Center. A control group consists of all inpatient discharges from the general pediatric medicine floor during January and February 2016. The intervention group will consist of all inpatient discharges from the general pediatric medicine floor during March and April 2016. Outcomes evaluated include total number of patient discharges, timing of discharge notifications, number of discharged patient counseled receiving pharmacist medication counseling, and pharmacist interventions. For patient discharges with medications filled by the Le Bonheur outpatient pharmacy, outcomes evaluated include pharmacist interventions, time from receipt to fulfillment of prescriptions, and adjudication information. A secondary outcome will be readmission to the hospital or emergency department within 30 days.

Results: To be determined

Conclusions: To be determined

Presentation Objectives: Discuss importance of the pharmacist in the discharge medication process; identify problems in the implementation of discharge counseling program.

Self-Assessment Question: What are the benefits of pharmacist involvement in the discharge medication process?

Mechanisms of Fosfomycin Resistance in Carbapenem Resistant *Enterobacter sp*.

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Background/Purpose

Mortality from CRE bacteremia have been reported to exceed 40%. New therapies are desperately needed. Fosfomycin is a phosphoric acid derivative that interferes with peptidoglycan synthesis. It has been shown to retain activity against CRE. Limited data has been published on fosfomycin's activity against CRE *Enterobacter sp*, and no data has been published on resistance mechanisms for CRE *Enterobacter sp*. in the United States. The purpose of this study is to determine the susceptibility and mechanisms of resistance of fosfomycin in CRE *Enterobacter sp*. from our institution.

Methodology

Isolates were identified as meropenem resistant via susceptibility testing by VITEK-2. Twenty clinical isolates (17 *Enterobacter cloacae* and 3 *Enterobacter aerogenes*) were included in the study. E. coli ATCC 25922 was used as a control. E-testing for fosfomycin was performed on the isolates. Isolates with elevated fosfomycin MICs (≥ 8 mg/L) were examined for resistance mechanisms using PCR, 2% agarose gel electrophoresis for preliminary identification of amplicons, and followed by sequence analysis for confirmation of resistance genes. The following primers were examined: murA, glpT, uhpT, FosA3, FosC2, and FosA. Details on the primers are below.

Primer Name	Forward Primer (5'-3')	Reverse Primer (5'-3')	Annealing temperature
murA	AAACAGCAGACGGTCTATGG	CCATGAGTTTATCGACAGAACG	55
glpT	GCGAGTCGCGAGTTTTCATTG	GGCAAATATCCACTGGCACC	55
uhpT	TTTTTGAACGCCCAGACACC	AGTCAGGGGCTATTTGATGG	55
FosA3	GCGTCAAGCCTGGCATTT	GCCGTCAGGGTCGAGAAA	57.5
FosC2	TGGAGGCTACTTGGATTTG	AGGCTACCGCTATGGATTT	50.5
FosA	ATCTGTGGGTCTGCCTGTCGT	ATGCCCGCATAGGGCTTCT	59.5
IS26-R		AGGAGATGCTGGCTGAACG	56.1
IS26-F	GCACGCATCACCTCAATACC		56.7
FosA3-R2		TCATCCAGCGACAAGCACA	56.7
FosA3-F2	GGGGCTGAGGTATGGAAAGA		56.1

Results

The MIC data is presented below.

MIC Range	0.38- >1024 mg/L
MIC 50	24 mg/L
MIC 90	>1024 mg/L
% Susceptible CLSI breakpoint (64 mg/L)	73 %
% Susceptible EUCAST breakpoint (32 mg/L)	73 %

*Data presented for 11 clinical isolates.

Conclusions:
CRE *Enterobacter sp.* at our medical center have elevated MICs to fosfomycin. Full susceptibility, PCR, and sequencing data on all isolates is pending.

Presentation Objective
Describe the mechanisms of fosfomycin resistance.

Self-Assessment Question
Which of the following mechanisms of resistance is leading to increasing fosfomycin resistance around the world?

A. MurA
B. FosA3
C. UphT
D. FosC2

Metabolic Monitoring for Patients on Second-Generation Antipsychotics in a VA Setting

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Background/Purpose: Pharmacologic therapy with antipsychotics is a crucial component in the treatment of patients with schizophrenia, bipolar disorder, and as adjunct therapy in major depressive disorder and anxiety. Baseline and ongoing metabolic monitoring of patients on second-generation antipsychotics (SGAs) is important due to the serious health risks associated with metabolic syndrome caused by these medications. In response to the increased metabolic side effects from these agents, the American Diabetes Association and American Psychiatric Association published consensus guidelines in 2004. According to these guidelines, fasting plasma glucose or hemoglobin A1c (HbA1c) should be monitored in patients on SGAs at baseline, 12 weeks after initiation, and annually. The objective of this project is to determine whether utilizing patient-specific electronic notification reminders to providers will impact the number of patients who are on SGAs that have not had monitoring of HbA1c or glucose in the past year.

Methodology: This study is a single center, prospective, observational analysis. The Psychotropic Drug Safety Initiative (PDSI) dashboard identified Veterans taking a SGA who had not had appropriate HbA1c or fasting blood glucose monitoring. The following data was collected: age, race, gender, location of mental health and primary care, and duration of antipsychotic treatment. An electronic reminder was entered into each patient chart to alert both the primary care and mental health providers that monitoring is warranted.

Results: The PDSI dashboard identified 456 patients at TVHS on a SGA who had not received appropriate monitoring in the past year. Of those patients, 226 patients met study criteria and a note was placed in each patient chart to recommend metabolic monitoring. Preliminary data showed 116 of those patients had been on therapy for less than one year indicating a lack of metabolic monitoring at baseline and 12 weeks after initiation of therapy.

Conclusions: Pending completion of data analysis

Presentation Objective: To discuss the importance of metabolic monitoring of atypical antipsychotics.

Self-Assessment Question: How often should patient's on atypical antipsychotics receive monitoring of fasting blood glucose or HbA1c?

Hemodynamic effects of propofol versus dexmedetomidine for sedation during mechanical ventilation in adult medical and surgical intensive care units

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Background/Purpose: Recently, significant advancements in pain, agitation, and delirium in the intensive care unit (ICU) have prompted a practice change in the management of critically ill patients. With this practice change, the treatment of pain became the major focus for clinicians in the ICU. Only after the adequate treatment of pain should agitation be treated, if present. The medications used for the treatment of agitation do not come without adverse effects. Some of these effects can be seen almost immediately, such as hypotension or respiratory depression, whereas others are considered long-term effects, such as the recovery from delirium. Previous studies have evaluated both the short and long-term effects of sedative medications, however, these studies were performed prior to the practice change. The purpose of this study is to assess the hemodynamic effects of the sedative medications propofol and dexmedetomidine when used for mechanically ventilated patients in the adult medical and surgical intensive care units. Additionally, this study will assess clinical outcomes such as development of delirium, length of mechanical ventilation, length of ICU stay, ICU mortality, and in-hospital mortality of patients who receive propofol, dexmedetomidine, midazolam, or lorazepam for sedation during mechanical ventilation.

Methods: A retrospective chart review was performed. From the electronic medical record, demographic information and laboratory data were collected. Additionally, for patients who received propofol or dexmedetomidine, vital signs, use of vasopressors, length of vasopressor infusions, and start times in relation to start of sedation medications were collected. Furthermore, the length of mechanical ventilation, length of ICU stay, length of hospital stay, ICU mortality, hospital mortality, and CAM-ICU was also collected for patients receiving propofol, dexmedetomidine, lorazepam, and midazolam.

Results: Pending

Conclusions: Pending

Presentation Objective: Compare the hemodynamic effects of propofol and dexmedetomidine when used for sedation during mechanical ventilation.

Self-Assessment Question: Which medication is associated with greater decrease in systolic blood pressure when used as a continuous infusion for sedation during mechanical ventilation?

Evaluation of Ambulatory Care Sensitive Condition Hospitalizations utilizing the Veterans Affairs (VA) Strategic Analytics for Improvement and Learning (SAIL) Model: Part 2

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Background/purpose:
Hospitalizations secondary to ambulatory care sensitive conditions (ACSC) such as hypertension, heart failure, and COPD are considered largely preventable if ambulatory care is provided in a timely and effective manner. The Strategic Analytics for Improvement and Learning (SAIL) population management tool was developed by the Veterans Health Administration (VHA) to summarize hospital system performance and provide a model for comparing facilities to allow for continuous improvement, evaluation, and benchmarking of quality and efficiency. The aim of this study was to determine whether utilization of the SAIL population management tool to identify and coordinate care for "high risk" patients would reduce risk of readmission.

Methodology:
A multi-center, prospective, quality improvement project was conducted evaluating patients identified as "high-risk" for readmission for ACSC between June 20th 2015 and April 1th, 2016. Patients were evaluated manually in the computerized patient record system (CPRS) to include patient demographics, pertinent ambulatory care sensitive conditions, laboratory values, provider follow-up, admission information, and pharmacy data. A pharmacist-led interdisciplinary team was formed to notify specific providers of 'high risk" patients to evaluate and determine appropriate coordination of care based on pre-specified courses of action which included: provider follow up scheduled, specialty services consulted, evaluation by clinical pharmacy specialist scheduled, non-institutional care modalities consulted, or other as deemed necessary. Responses to notifications as well as data regarding readmission were tracked manually.

Results:
Data collection and analysis in are in progress.

Conclusions:
Conclusions are pending analysis of available data.

Presentation Objective:
To evaluate whether implementation of a pharmacist-led multidisciplinary team utilizing population management data to coordinate care for "high risk" patients will have an impact on reducing readmission rates specifically related to heart failure, COPD, pneumonia, and diabetes.

Self-assessment Question: What are some "ambulatory care sensitive conditions"?

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THURSDAY, Session II, Room 215 – 4:40 PM
neil.roe@mlh.org

Rogers, Whitney
St. Dominic Jackson Memorial Hospital
Jackson, MS
THURSDAY, Session I, Room 219 – 3:00 PM
acrowdus@stdom.com

Russell, Gabrielle
Le Bonheur Children's Hospital, Memphis, TN
THURSDAY, Session I, Room 215 – 3:00 PM
gabrielle.r.russell@gmail.com

Saed, Areeman
Cookeville Regional Medical Center, Cookeville, TN
THURSDAY, Session II, Room 315 – 3:40 PM
asaed@crmchealth.org

Saunders, Charles
HCA (Joint UT Institution), Nashville, TN
THURSDAY, Session II, Room 315 – 5:00 PM
burton.saunders@hcahealthcare.com

Schuchard, Sarah
SSM Health Cardinal Glennon Children's Hospital
St. Louis, MO
THURSDAY, Session I, Room 215 – 1:40 PM
sarah_schuchard@ssmhc.com

Sehli, Faisal
Le Bonheur Children's Hospital, Memphis, TN
FRIDAY, Session V, Room 315– 12:40 PM
fsehli@uthsc.edu

Seligson, Nathan
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FRIDAY, Session IV, Room 315 – 11:00 AM
nathan.seligson@bmhcc.org

Sewell, Mary (Jeanna)
University of Mississippi School of Pharmacy
Oxford, MS
THURSDAY, Session I, Room 215 – 2:20 PM
msewell@umc.edu

Shah, Samarth
Methodist University Hospital, Memphis, TN
THURSDAY, Session I, Room 217 – 2:40 PM
samarth.shsh@mlh.org

Shukla, Ankit
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St. Louis, MO
THURSDAY, Session I, Room 215 – 2:40 PM
ankit_shukla@ssmhc.com

Skaggs, Katie
Baptist Health Medical Center, North Little Rock, AR
THURSDAY, Session 1, Room 219 – 2:00 PM
katie.skaggs@baptist-health.org

Slusher, Lindsey
Maury Regional Medical Center, Columbia, TN
THURSDAY, Session II, Room 219 – 4:20 PM
lslusher@mauryregional.com

Stoltz, Mary (Molly)
Le Bonheur Children's Hospital, Memphis, TN
FRIDAY, Session III, Room 215 – 8:40 AM
mary.stoltz@lebonheur.org

Taylor, Emily
East Jefferson General Hospital, Metairie, LA
THURSDAY, Session II, Room 315 – 4:40 PM
ewtaylor@ejgh.org

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FRIDAY, Session V, Room 215 – 1:20 PM
jntaylor@nmmc.net

Thomas, Ashley
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FRIDAY, Session IV, Room 315 – 11:20 AM
ashley.wadell3@va.gov

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FRIDAY, Session IV, Room 217 – 10:40 AM
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FRIDAY, Session IV, Room 219 – 10:20 AM
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FRIDAY, Session IV, Room 315 – 10:20 AM
melissa.tsiu@bmhcc.org

Ulrich, Dagny
Methodist Le Bonheur Healthcare - Germantown Hospital, Germantown, TN
FRIDAY, Session III, Room 308 – 9:40 AM
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Van Cleve, Jonathan
VAMC Memphis, Memphis, TN
FRIDAY, Session IV, Room 215 – 10:40 AM
jonathan.vancleve@va.gov

Volgas, Sarah
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THURSDAY, Session II, Room 308 – 4:00 PM
sarah.volgas@baptist-health.org

Walley, Jeremy
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Murfreesboro, TN
FRIDAY, Session IV, Room 123 – 11:20 AM
jeremy.walley2@va.gov

Warstler, Amanda
VA Tennessee Valley Healthcare System
Murfreesboro, TN
THURSDAY, Session II, Room 123 – 4:20 PM
amanda.warstler@va.gov

Wassell, Katelyn
VAMC Memphis, Memphis, TN
FRIDAY, Session III, Room 315 – 9:00 AM
katelyn.wassell@va.gov

Watson, Amber
Aegis Sciences Corporation/Belmont University College of Pharmacy, Brentwood, TN
THURSDAY, Session II, Room 308 – 3:40 PM
Amber.watson@aegislabs.com

Watson, Troy
HCA (Joint UT Institution), Nashville, TN
FRIDAY, Session III, Room 123 – 8:20 AM
troy.watson@hcahealthcare.com

White, Bryan
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FRIDAY, Session V, Room 315 – 1:00 PM
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FRIDAY, Session IV, Room 123 – 11:00 AM
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THURSDAY, Session II, Room 315 – 4:20 PM
emily.loveless@hcahealthcare.com

Yaeger, Jaclyn
VA Tennessee Valley Healthcare System
Murfreesboro, TN
THURSDAY, Session I, Room 215 – 2:00 PM
jaclynyaeger@gmail.com

Yeary, Julianne
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THURSDAY, Session I, Room 219 – 1:40 PM
jyeary@umc.edu

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HyeJin Son

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North Little Rock, AR
Julie Mellenthin

Baptist Memorial Hospital - Memphis
Memphis, TN
Amy Evans
Heather Griffin
Elizabeth Mills

Baptist Memorial Hospital - Desoto
Southaven, MS
Krista Bachert

Baptist Memorial Hospital - North Mississippi
Oxford, MS
Anastasia Jenkins

Belmont University College of Pharmacy
Nashville, TN
Elisa Greene
Genevieve Ness

BlueCross BlueShield of Tennessee
Chattanooga, TN
Jeff Campbell

Cookeville Regional Medical Center
Cookeville, TN
Casey White

East Jefferson General Hospital
Metairie, LA
Cheryln Boutan

Fort Sanders Regional Medical Center
Knoxville, TN

G. V. (Sonny) Montgomery VA Medical Center
Jackson, MS
Margaret Pitcock

Hospital Corporation of America
(Joint UT Institution)
Nashville, TN
Kathleen Nolte
Carol White

HealthTrust
Brentwood, TN
Marcus Dortch
John Theobald

Henry County Medical Center
Dyersburg, TN
Paula Bell

Jackson - Madison County General Hospital
Jackson, TN
Ashley Garrett
Jamie Hopkins
Brad Spencer
Dylan Wilson

Le Bonheur Children's Hospital
Memphis, TN
Kelly Bobo
Kerry Parks
Rebecca Regen

Lipscomb University College of Pharmacy
Nashville, TN
Beth Breeden
Benjamin Gross

Maury Regional Medical Center
Columbia, TN
Erika Hasford
Jennifer Whittington

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Germantown Hospital
Germantown, TN
Tara Parish
David Shoop
Brad Swiggart
Mary Yates

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Memphis, TN
Joyce Broyles
Chris Finch
Anne Reaves
Jennifer Twilla
Justin Usery

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Nashville, TN
Nickie Greer

Regional One Health
Memphis, TN
Drew Armstrong
Paige Clement
David Hill
Marilyn Lee
Maegan Rogers
Kay Ryan

Saint Thomas Rutherford Hospital
Murfreesboro, TN
Amy Hodgin

St. Dominic Jackson Memorial Hospital
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Krista Riche

St. Jude Children's Research Hospital
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Allison Bragg
William Greene
James Hoffman
Jennifer Pauley

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Kent Stoneking

Unity Health – White County Medical Center
Searcy, AR
Elizabeth Underwood

University of Arkansas for Medical Sciences
Little Rock, AR
Kendrea Jones

University of Mississippi School of Pharmacy
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Lauren Bloodworth
Joshua Fleming
Laurie Fleming
Travis King
Scott Malinowski
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Katherine Artman
Stephanei Tesseneer

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Joanna Hudson
Timothy Self

VAMC Memphis
Memphis, TN
Whitney Elliott
Theodore Morton
Josh Sullivan

VA Tennessee Valley Healthcare System
Murfreesboro, TN
Shawn McFarland

Walgreens Co.
Jackson, MS
Catherine Black
Karla Foster

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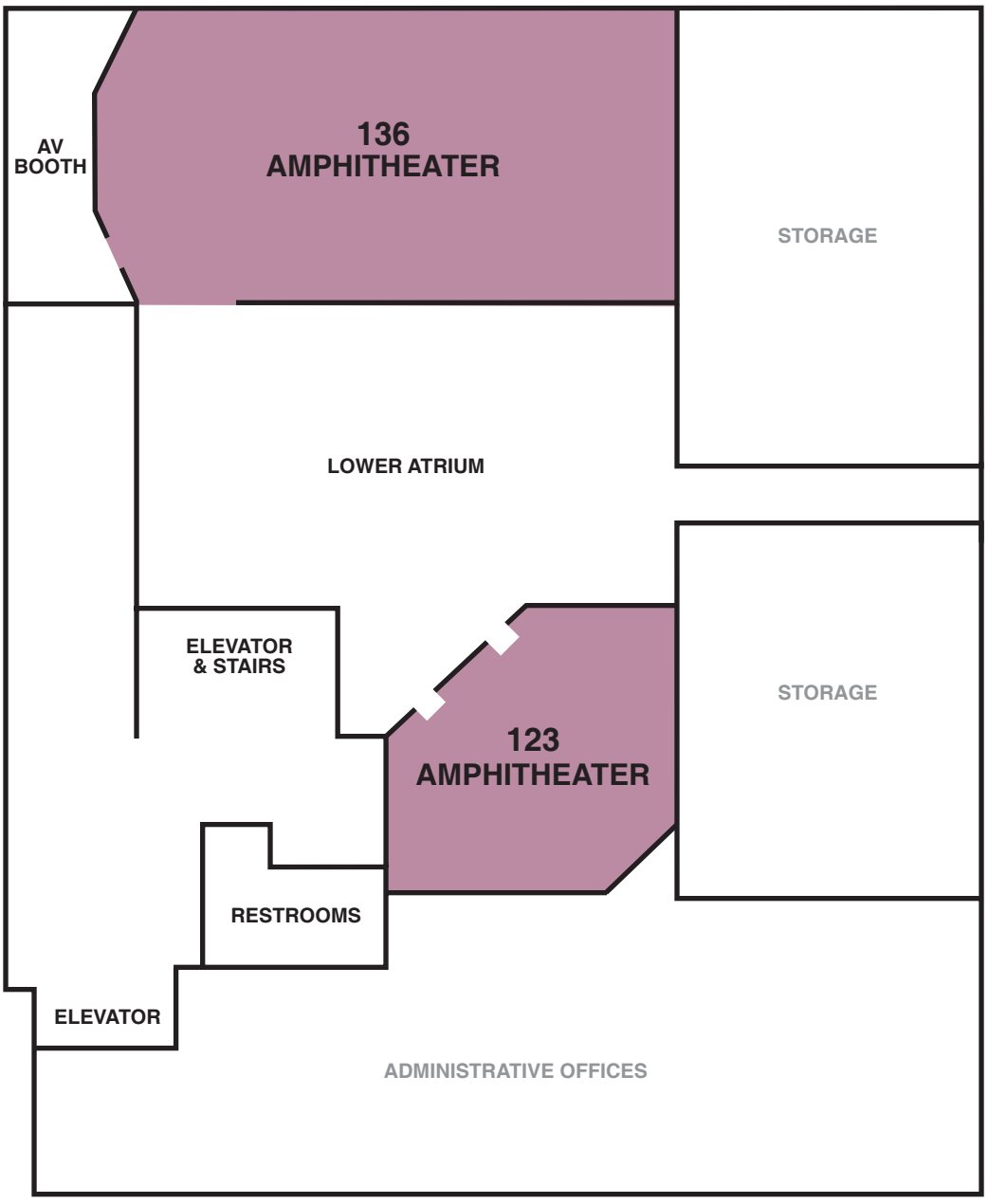

1st Floor

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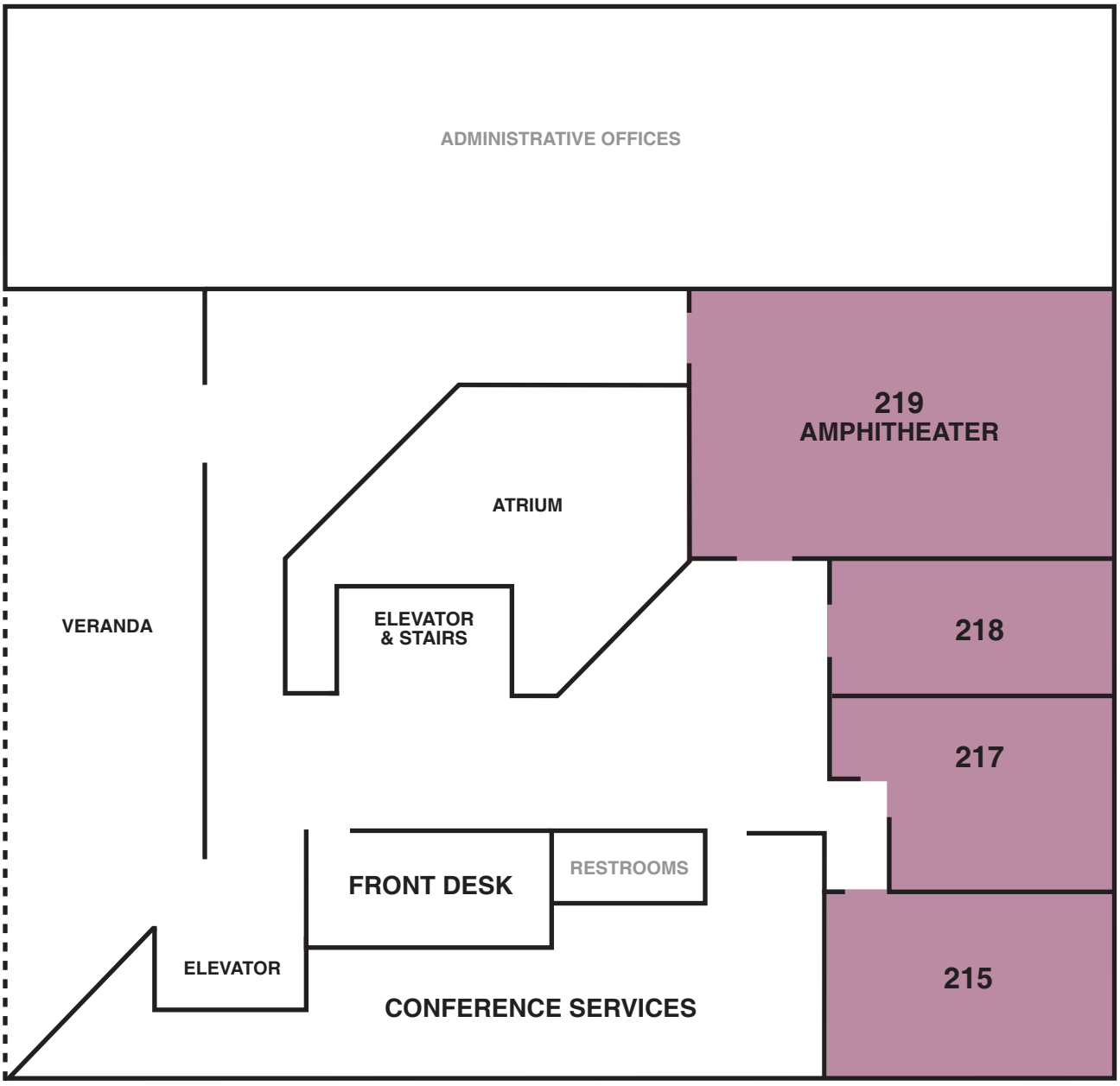

2nd Floor

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3rd Floor