



ANNUAL REPORT

Department of Pharmacy

Fiscal year 2015



Table of Contents

I. Table of Contents.....	1
Message from the Chief Pharmacy Officer.....	2
II. Mission, Vision and Goals.....	3
III. Organizational Chart.....	4
IV. Balanced Scorecard.....	5
V. Overview of Pharmacy Services: Scope and Accomplishments.....	6
Ambulatory Pharmacy Services	7
Central Pharmacy Services.....	10
Clinical and Patient Care Services.....	12
Inpatient Operations.....	14
Women’s and Children’s Hospital and Health Center.....	16
Administrative and Business Services	20
Center for Medication Policy	21
Investigational Drug Service	23
Medication Safety.....	25
Antimicrobial Stewardship.....	27
Nutritional Support.....	28
Oncology Pharmacy Program.....	29
Transplant Pharmacy Program.....	31
VI. Research Program.....	33
VII. Educational Program.....	35
VIII. Residency Programs.....	37
IX. Milton W. Skolaut Leadership Award.....	40
X. Grants and Publications.....	41
XI. Preceptor Awards.....	43



Duke Pharmacy
Duke University Hospital

Message from the Chief Pharmacy Officer

Paul Bush



It is my pleasure to present the 2015 Annual Report for the Department of Pharmacy. This annual report highlights the exceptional work that the Duke pharmacists and staff accomplish on a daily basis and the successful initiatives that transform the quality of pharmaceutical care for our patients. These exceptional accomplishments are detailed in the report under the respective service areas and program categories.

It has been a busy and productive year. I will highlight several accomplishments but suggest that you review the entire report to fully understand all that has been accomplished.

The department supported Duke Transforming our Future (TOF) initiatives in care redesign, supply chain and operations. Care redesign projects included ICU sedation, sepsis response, malignant hematology and transplant redesign and expanded antimicrobial stewardship initiatives. A major new service to expand production of sterile preparations for Duke Regional Hospital and Duke Raleigh Hospital was launched. Medication stewardship continued as the Pharmacy Utilization Management Program (PUMP) recorded financial savings of \$4 million. Staffing throughout the department was assessed and adjustments were made in support the goals of TOF.

Specialty pharmacy services were implemented for the Duke Hepatology Clinic making new therapeutic options available to patients with hepatitis C infections. Technical (facility) billing for primary care pharmacy services was implemented at the Duke Outpatient Clinic and Duke Family Medicine Clinic and pharmacist services for Duke Connected Care (ACO) were launched.

The department initiated an in-house sterility testing program in collaboration with the Department of Microbiology and a drug stability testing program in partnership with the Campbell University Pharmaceutical Education and Research Center. New carousel technology replaced outdated equipment and inventory management software was implemented in the central distribution (storeroom) center. The 340B program was expanded to inpatient mixed-use areas.

Clinical services for pediatric ambulatory hematology/oncology and neurology/oncology were launched. The Antimicrobial Stewardship and Evaluation Team collaborated with the Maestro Care Willow team to develop a clinical support system within Epic to deliver point of care best practice alerts for antimicrobials. The Medication Safety staff facilitated a smooth transition from the legacy SRS system to the RL Solutions RL6 product. A partnership was established with Duke Home care and Hospice to enhance home parenteral nutrition safety and quality.

The 2015 Milton W. Skolaut Leadership Award recognizing the leadership and professional contributions of a past resident of the Duke University Hospital Pharmacy Residency Program was awarded to James C. McAllister III, MS, FASHP.

All of this work directly supports our mission and vision for pharmacy services at Duke University Hospital. These accomplishments would not be possible without the commitment and personal dedication of the Duke University Hospital pharmacy leadership team and staff members.

I would like to thank each and every member of the staff for their commitment to the profession and dedication to the care of Duke Medicine patients.

Sincerely,

A handwritten signature in black ink that reads "Paul W. Bush". The signature is written in a cursive, flowing style.

Paul W. Bush, PharmD, MBA, BCPS, FASHP
Chief Pharmacy Officer

II. Departmental Overview

Mission

To work collaboratively with other healthcare professionals to provide optimal pharmaceutical care to all patients, to advance pharmaceutical knowledge through educational and scholarly activities, and to promote positive patient outcomes.

Vision

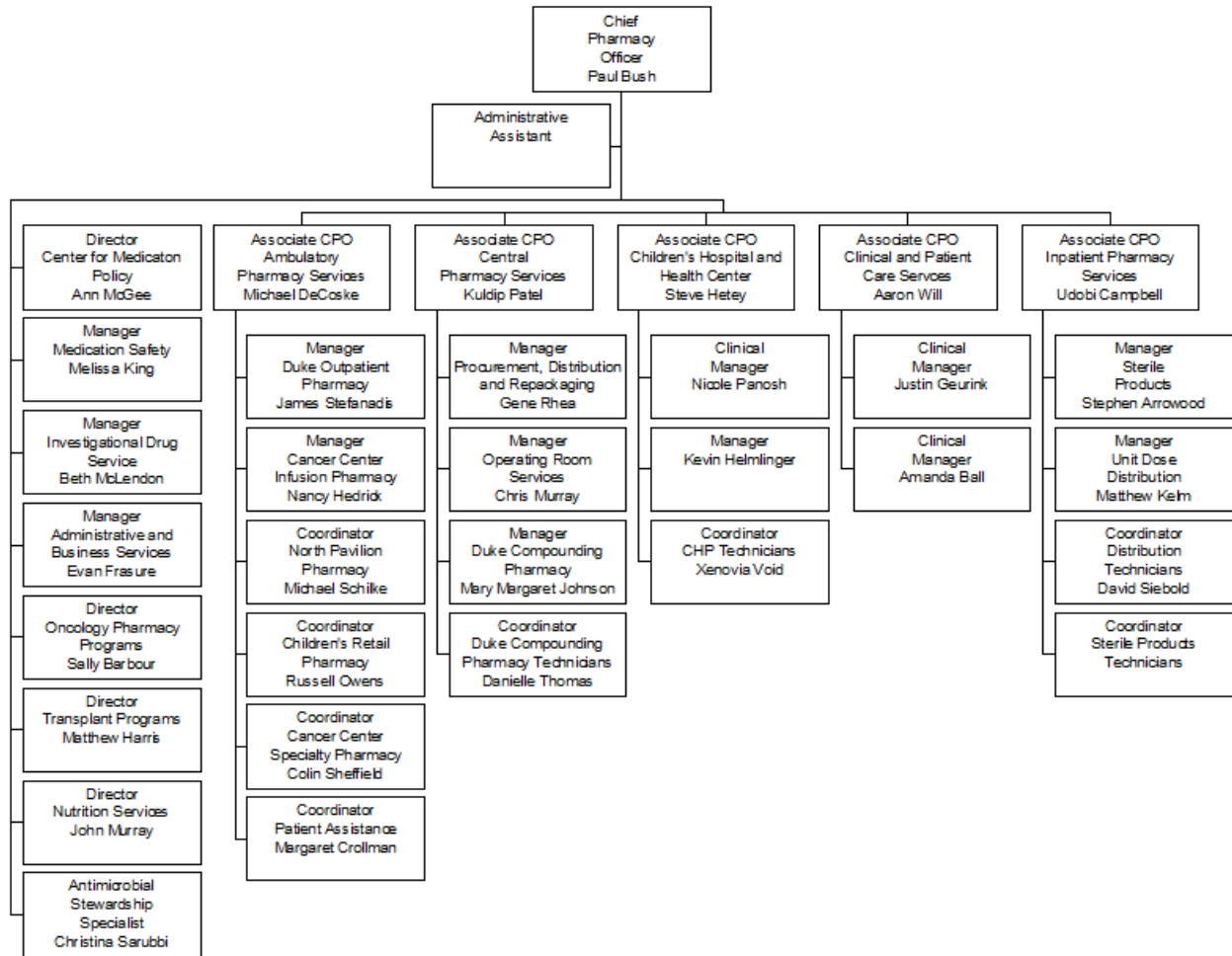
To provide optimal patient care and improve patient outcomes to meet or exceed customer expectations. The department will be recognized for quality and diversity of services, professional leadership, and educational excellence. We will advance the accessibility of pharmacy services through the innovative use of personnel and technology. Employees will work together to create an exceptional work environment.

Goals


- To improve patient outcomes and provide the highest standards of pharmaceutical care,
- To foster a collaborative approach to medication safety among all disciplines,
- To provide an exceptional work environment that will establish Duke as the pharmacy employer of choice,
- To integrate new technological developments which improve efficiency and safety,
- To promote research to improve patient outcomes and the efficiency of care, and,
- To expand and promote excellence in pharmacy education.



III. Organizational Chart



IV. Balanced Scorecard

 Duke University Hospital/Pharmacy (2015-12 Jun) Balanced Scorecard - All					
Measure	Actual	Target	YTD Actual	YTD Target	Freq
QUALITY AND PATIENT SAFETY					
ADM Override Rate (ICU)	6.13%	10.00%	6.45%	10.00%	M
ADM Override Rate (Non-ICU)	0.58%	1.00%	0.71%	1.00%	M
Medication Turnaround Time - High Priority	12.7	10.0	14.0	10.0	M
Non-Formulary Usage	0.30%	0.60%	0.33%	0.60%	M
Pharmacy Sourced Preventable Medication-related SRS Events with Patient Impact (E-I)	1.0	1.5	32.0	18.0	M
PATIENT EXPERIENCE					
HCAHPS: Communication About Medicines ^{CSF}	65.5%	64.7%	66.6%	64.7%	M
Percent Omnicell Stock-outs	0.00%	0.55%	0.53%	0.55%	M
Retail Pharmacy Customer Satisfaction	83.87%	75.00%	77.91%	75.00%	Q
FINANCE AND GROWTH					
Direct Contribution Margin for Outpatient Pharmacy	\$3,522,318	\$953,617	\$22,440,066	\$11,443,400	M
Flex Expense Percent Variance ^{CSF}	-9.41%	0.00%	-6.80%	0.00%	M
Flex FTE Percent Variance ^{CSF}	3.49%	0.00%	3.60%	0.00%	M
Pharmaceutical Utilization Management Program (PUMP) Program Savings	\$1,659,907	\$500,000	\$4,091,389	\$2,000,000	Q
WORK CULTURE					
Percent Terminations Annualized: Overall ^{CSF}	13.40%	13.60%	13.40%	13.60%	M
Work Culture Power Item Score ^{CSF}	3.89	3.92	3.89	3.92	YTD
Work Culture: Commitment Indicator ^{CSF}	4.00	4.02	4.00	4.02	YTD
Lighting Scheme: Blue = Exceeds Expectations; Green = Fully Achieves; Yellow = Between prior year's avg performance (or similar) and Fully Achieves; Red = Below prior year's avg performance, budget, or similar					
DUHS Performance Services, 9/24/2015 3:01:18 PM					



Duke Pharmacy
Duke University Hospital

V. Overview of Pharmacy Services: Scope and Accomplishments

Duke University Hospital (DUH) is an academic learning center and serves as the flagship for Duke University Health System. A tertiary and quaternary care hospital, the 943-bed DUH is consistently rated as one of the top hospitals in the United States. It offers comprehensive diagnostic and therapeutic facilities, including: a regional Level 1 emergency trauma center; multiple surgical platforms including a major surgery suite containing 40 operating rooms; an endosurgery center; an ambulatory surgery center with nine operating rooms; an eye center with five operating rooms; and extensive diagnostic and interventional radiology facilities. DUH also functions as a research facility where innovations in medicine are consistently achieved and implemented. It is a teaching hospital for students of medicine, pharmacy, nursing, and the allied health sciences. The Department of Pharmacy provides a broad range of advanced pharmacy services. The mission of the Department of Pharmacy is to care for patients by assuming responsibility for the medication use process, and facilitating safe and effective use of medications.

To achieve this mission, the department employs multiple pharmacy practice models:

- Decentralized clinical practitioners;
- Specialized pharmacy services operating from discrete areas (e.g. Ambulatory pharmacies, Infusion pharmacies, Operating Room pharmacies, Investigational Drug Services, Production and Packaging and Sterile Products);
- Targeted patient care services (e.g. pain management, nutrition support, anticoagulation, transplantation, pharmacokinetic dosing consults); and
- Program-based services (e.g., performance improvement, medication safety, medication stewardship, antimicrobial stewardship, drug information and support to medical staff committees including the DUHS Pharmacy and Medication Management, DUHS Medication Safety Committee, DUH Pharmacy and Therapeutics Committee, DUH Medication Safety Committee, DUH Patient Safety and Clinical Quality Committee, Duke Medicine Institutional Review Committees, DUH Infection Control Committee and DUH Ethics Committee.

Services Provided to Duke Patients

- Admission
 - Assure a complete and accurate medication history and reconcile prescribed medication
 - Develop, document and initiate the medication-related components of the patient care plan
- Services
 - Review and approve medication orders before the first dose is administered
 - Review patient-specific medication profiles on a daily basis
 - Monitor the patient's response to medication therapy and adjust medication doses based on response or pharmacokinetic characteristics of the medication
 - Participate in the nutritional support of patients working collaboratively with team members to initiate parenteral nutrition and adjust formulations based on patient response
 - Monitor critically important medication serum concentrations and other clinically important laboratory analyses
 - Participate in patient care rounds
 - Participate in rapid response and resuscitation
- Discharge (Transition)
 - Educate patients about their medication, and establish processes to ensure complete and accurate prescriptions and medication-related continuity of care for discharged patients
 - Provide medications for home use



Overview of services

The following areas represent the major Ambulatory Pharmacy presence at Duke University Hospital and the primary patient populations served within each area:

- CHC Retail Pharmacy
 - Pediatric patients, Duke employees, Discharge patients
- Duke Cancer Center Specialty Pharmacy
 - Oncology patients, Transplant patients, Hepatology patients
 - Patient Assistance Programs
 - Patient prescription enrollment for Duke Hospital Based Clinics
 - IV Drug Replacement for Duke Infusion Center patients
- Duke Cancer Center Infusion Pharmacy
 - Oncology Treatment Center, Oncology Clinics, Radiation Oncology
- Duke Outpatient Retail Pharmacy (OPD)
 - Duke Clinic patients, Duke employees, Duke University Students
- Morris Pharmacy
 - Non-Oncology Infusion Center, Duke Hospital Based Clinics
- North Pavilion Pharmacy
 - Ambulatory Surgery Center, Outpatient Bone Marrow Transplant
- Clinic Pharmacists
 - Oncology Clinics
 - Breast, Brain Tumor, HOA, GU, Sarcoma, BMT, Thoracic, GI
 - Oncology Treatment Center
 - Duke Outpatient Clinic
 - Duke Family Medicine Clinic
 - Anticoagulation Clinic
 - Infectious Disease Clinic
 - Thoracic Transplant Clinic

Mission

- Provide excellent clinical patient care in accord with accepted best practices
- Maintain fiscal responsibility over medication use
- Maintain compliance with all pertinent regulatory requirements
- Expand services in response to society's changing health care needs and the shift towards ambulatory care

Goals

- To foster an environment for responsible medication use
- To develop a business model for self-sustaining clinical pharmacy services within Hospital Based Clinics, specifically in high acuity areas such as primary care, transplant, and oncology
- To ensure continuity of care as patients transition from inpatient to outpatient and to strengthen the collaboration between inpatient and outpatient pharmacy services
- To optimize the use of technology and automation to support pharmacy services
- To support pharmacy practice and clinical research, residency training and student clerkships
- To serve as the preferred retail pharmacy for all Duke University Hospital patients and employees

- To positively contribute to the direct contribution margin for Duke University Hospital
- To ensure that pharmacists will be available, visible, and serve as the primary resource for all medication related issues across Duke University Hospital Outpatient Areas

Locations and Hours of Operation

- CHC Retail Pharmacy: 8:30 AM - 8:00 PM M-F; 9:00 AM -1:00 PM Saturday
- Duke Cancer Center Specialty Pharmacy: 8:30 AM - 6:00 PM M-F; 24/7 On-Call
- Duke Cancer Center Infusion Pharmacy: 7:30 AM - 6:30 PM M-F
- Duke Outpatient Retail Pharmacy (OPD): 8:30 AM - 6:00 PM M-F
- Morris Pharmacy: 7:30 AM - 4:00 PM M-F
- North Pavilion Pharmacy: 6:30 AM - 5:00 PM M-F; 7:00 AM – 11:00 AM Sat & Sun

Major Accomplishments

- Targeted service enhancements to improve retail pharmacy access and customer satisfaction
- Implemented new specialty pharmacy services with the Duke Hepatology Clinic
- Developed a plan for new specialty pharmacy services to support Cystic Fibrosis, Neurology and Rheumatology
- Expanded and streamlined the Patient Assistance Program and implemented a Prior Authorization Support model for select clinics
- Partnered with Student Health Leadership to design a new Retail Pharmacy for Duke University Campus
- Implemented prospective pharmacy review of medication orders in all Duke Cancer Center clinics (profiled Omnicell cabinets)
- Implemented technical (facility) billing for primary care pharmacy services at the Duke Outpatient Clinic and Duke Family Medicine Clinic
- Reorganized patient care delivered by Morris Pharmacy to support a major Transforming our Future initiative
- Integrated pharmacy services within Duke Connected Care (accountable care)
- Supported the development of a new Hazardous Drug Policy for Duke University Hospital
- Implemented a new DUHS Sample Medication Policy
- Developed a new DUHS Safe Opioid Prescribing Guideline
- Developed a plan between pharmacy and nursing to conduct Surface Contamination Studies for Hazardous Drugs
- Implemented new smart pumps in the outpatient Adult Bone Marrow Transplant Clinic

FY15: 196,301 prescriptions filled between three retail pharmacies

FY15: Retail pharmacies record revenue of \$69.5 million

Implemented specialty pharmacy services with Duke's Hepatology Clinic

Team Members





Overview of services

Central Pharmacy Services is composed of three separate operating departments inclusive of the Duke Compounding Pharmacy, Perioperative Pharmacy Services, and Pharmacy Procurement, Repackaging, and Distribution.

- *The Duke Compounding Pharmacy* prepares Compounded Sterile Preparations (CSPs) in compliance with the United States Pharmacopeia – National Formulary compounding standards. Furthermore, Duke Compounding Pharmacy also supports the organizational mission in supporting patient safety by preparing medications in the most ready to use medication packages when possible. The Duke Compounding Pharmacy also supports the research mission of DUH by supporting any specialized pharmaceutical needs.
- *Perioperative Pharmacy* serves the pre-, intra-, and postoperative patients by providing highly specialized clinical and technical pharmacy services to enhance surgery outcomes. They support this goal by collaborating with surgeons, anesthesiologists, nurse anesthetists, nurses, and other ancillary staff to deliver patient centered care by utilizing medications in a safe and cost effective manner.
- *Pharmacy Procurement, Repackaging, and Distribution* services provide logistical support by purchasing and distributing medications to DUH and DUHS Pharmacies and Clinics. The department uses highly innovative inventory management systems and high-speed solid and liquid packaging technology to organize and manage the supply chain efficiently.

Locations and Hours of Operation

The Duke Compounding Pharmacy operates 5:00 AM – 10:30 PM (M-F). Designated pharmacists and technicians are available for afterhours emergency support for patient care needs. The pharmacy is located in Duke South, room 0010, Davison Building.

The Perioperative Pharmacy services operate two shifts (6:00 am – 9:30 pm) via the decentralized pharmacy satellites located on the 3rd Floor in the Duke North and Duke Medicine Pavilion. The Eye Center Perioperative Pharmacy services are available 6:00 AM – 3:15 PM (M-F). Designated support is available for afterhours emergency support via the Duke North Pavilion Perioperative Pharmacy.

The Pharmacy Storeroom (procurement) is open 24 hours and staffed from 5:00 AM – 11:30 PM (M-F) and 6:30 AM – 3:00 PM (Weekends).

Major Accomplishments

Duke Compounding Facility:

- Sought approval and executed the sterile preparations insourcing project for the health system.
- Executed on establishing the microbiology partnership and initiated in-house sterility testing program.
- Initiated the DUH Drug Stability testing program in partnership with Campbell University Pharmaceutical Education and Research Center.
- Installation of ISO Class 5 hoods and digital monitoring cameras.

Established a health system-wide DUHS Sterile Preparations Oversight Committee (SPOC)

Perioperative Services:

- Completed the DN, DMP, and Eye Center OR Omnicell Tower implementation and profiling.
- Initiated the pharmacists second review of the nursing OR medication trays.
- Initiated a proactive controlled substance diversion monitoring workgroup
- Completed the reconfiguration of the DMP OR Pharmacy work area.
- Established a perioperative pharmacy services work plan.

Contributions to PUMP Savings for FY2015 (procurement and perioperative services) – over \$700,000.

Pharmacy Procurement, Repackaging, and Distribution

- Completed the installation of Omnicell Carousels and Omnicell Workflow Rx Software.
- Implemented use of Omnicell WorkflowRx Software (intranet) for ordering medications and supply via the Pharmacy Storeroom.
- Initiated a systematic approach to assessing and ordering medications to achieve the lowest possible total drug expense (health system).
- Completed the repackaging insource business plan and executed

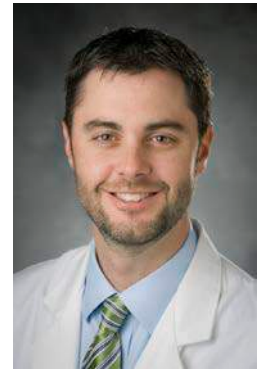
Completed the expansion of the 340B program in mixed use settings

Team Members

The Central Pharmacy Services team is made up of highly experienced, skilled and committed managers, pharmacists, technicians, accounting clerks, and material resource technicians who work collaboratively with internal and external customers to meet the needs of patients at Duke Hospital. Staff members actively support the department's mission by participating in clinical quality and process improvement efforts, promoting and fostering a positive work culture, and making the best use of medications to produce positive patient and customer experiences.







Overview of services

The Clinical and Patient Care Services Division (CPCS) comprises all adult inpatient medical and surgical areas and their related specialty areas.

- The Pharmacy practice model employed within CPCS is an integrated practice model consisting of both team-based services (e.g. nutrition support, anticoagulation, transplantation), and unit-based pharmacy services for all inpatient care areas.
- Clinical services include medication monitoring programs and pharmacist protocols, provider order verification, patient education, and verification of patient medication histories.
- Clinical pharmacists participate in daily patient care rounds for most medical and selected surgical services, and all pharmacists maintain competency to recognize and manage the pharmacotherapy needs of adult and geriatric patients.
- Clinical services, including clinical monitoring and order verification, occur in the Medication Management Center on evenings, overnights, weekends, and holidays.
- Clinical pharmacists also participate actively on departmental, hospital, and health-system committees involving quality improvement initiatives, informatics, medication policy, clinical research, and medication safety.

Availability:

Pharmacists provide services during the day shift, Monday through Friday, in direct patient care areas, and through order verification and clinical services in the Medication Management Center during weekday evenings, weekends, holidays, and overnight.

Major Accomplishments

- Added additional DMP support through day shift split CTICU and MICU position
- Recruitment for additional DMP support through second evening ICU position
- Recruitment for replacement pharmacy clinical manager position
- Provided support to the profession through publications, posters, and presentations
- Preceptor recognition by the Duke University Hospital Pharmacy Residency Programs (Resident Advocate Award)
- Recruited and hired five new pharmacists in clinical practice areas including: surgery, medicine, cardiology, and night shift clinical services
- Continued Maestro Care and Beacon optimization through ticket submissions and committee work
- Supported staff members to attend Duke Patient Safety Center resiliency workshops
- Supported staff member attendance at several regional and national conferences
- Contributed to Transforming our future care re-design

Piloted and implemented Pharmacy Admission Home Medication History process

Implemented weekend first and second shift Emergency Department pharmacy services

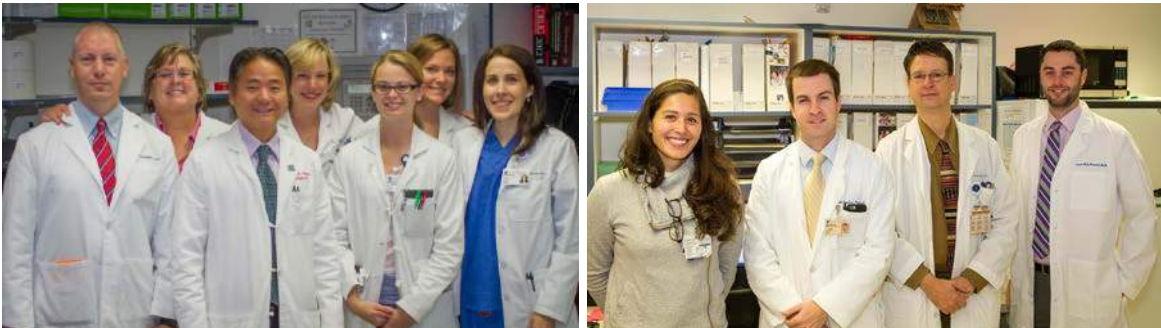
initiatives, including ICU sedation care redesign, sepsis response, malignant hematology care redesign, transplant care redesign, antimicrobial stewardship initiatives, and others

- Updated Pharmacy Resident orientation process through a new orientation committee
- Updated Pharmacy Pocket Guide through pharmacist coordination and contributions
- Increased preceptor attainment of adjunct faculty status at the University of North Carolina Eshelman School of Pharmacy
- Numerous pharmacists attained or recertified Board Certification in their respective practice areas

Developed Maestro Care documentation of clinical activities through iVent additions

Our Team

The CPCS team consists of well-trained, highly-committed pharmacists who work collaboratively with internal and external customers to meet medication needs of adult patients at Duke University Hospital. Most staff members have greater than 5 years of experience at Duke, and many are trained to work in their specialty area as well as other areas within the division. Many pharmacists have completed one or two residency programs, and are board certified in their practice area. Several pharmacists hold full-time or adjunct faculty appointments at the University of North Carolina Eshelman School of Pharmacy and/or the Campbell University College of Pharmacy and Health Sciences. CPCS staff members also actively support the department's mission through ongoing participation in quality, safety, and process improvement efforts, resident education, and research activities. Many CPCS staff are active members or hold leadership roles in state and national pharmacy organizations. Others have made contributions to the profession through publications and presentations at both local and national organizational meetings.





Overview of Services

The Department of Pharmacy Inpatient Operations Division provides an array of services which support care of patients in both the inpatient and outpatient arenas. These services include:

- Sterile preparation and distribution of both hazardous and non-hazardous medications in a USP 797-compliant environment
- Unit dose medication distribution utilizing a hybrid model which involves the use of patient care unit-based automated dispensing cabinets (ADC), unit dose cart-fill, and first dose dispensing
- Comprehensive ADC management
- Controlled substance management
- Code cart procurement, assembly, distribution and maintenance
- Night shift medication preparation, verification and distribution

Locations and Availability:

Duke University Hospital, zero level, room 0415 and Duke Medicine Pavillion, room 6W60. Services that are provided by the Inpatient Operations Division are available 24 hours a day, 7 days a week.

Methods of Drug Distribution

Our goal is to have the medication available at the patient care unit before the care nurse needs it for a patient. To meet this goal, we use different mechanisms to transfer medications from central pharmacy to the patient care unit. The most common methods, however, involve the use of highly motivated pharmacy technicians, who make routine deliveries, and STAT technicians who deliver urgent and emergent medications. The pneumatic tube system is another means by which medications are delivered to the patient care unit.

Use of Technology to Enhance Safety and Operational Efficiency

Several technology systems and software are utilized daily by staff members to accomplish the division tasks. Some of these key systems include:

- The unit dose dispensing robot, which is extensively used in the process of daily cart-fill of unit dose medications, fills approximately 3000 doses of medications. Medications intended to be dispensed by the robot are repackaged and bar-coded.
- Automated compounding devices primarily used to support parenteral nutritional admixtures, eliminating the need for multiple manipulations.
- Dispense Prep and Dispense Check barcode scanning solution which complements the work of both the technician and the pharmacist by providing added verification that drug product selection is accurate.
- Automated dispensing cabinets which provide secure storage of medications while supporting timely availability of medications to the nurse following verification by a pharmacist.
- Controlled substance monitoring software used for tracking movement of scheduled medications and report generation for monitoring and quality assurance.
- Targeted barcode verification of specific high alert medications prior to dispensing or loading into an automated dispensing cabinet
- The i.v.STATION robot assures accurate preparation of sterile products through the use of gravimetric technology. Currently utilized for non-patient-specific preparations.

- Carousel technology is used for drug storage and dispensing. Includes guiding light and barcode technology which help assure accurate medication dispensing practices.
- PharmTrac.PD technology is used for tracking the location of medications once dispensed from the central pharmacy.

Major Accomplishments

- Collaboration with the Duke Compounding Facility on production on non-patient specific infusions.
- Significant contributions to the Pharmaceutical Utilization Management Program
- Unit-based Omnicell cabinet optimization
- Transition from 50mL Mini-Bag Plus systems to 100mL Mini-Bag Plus system with significant increase in BUD
- Support for pharmacists with employee vaccination initiative.
- Increased use of barcode scanning technology for oral syringes and unit doses dispensed from the Central Pharmacy

Our Team

The Inpatient Operations team is made up of well trained, highly-committed pharmacists and technicians who work collaboratively with internal and external customers to meet the needs of patients at Duke Hospital. Many of the staff members have greater than 5 years of experience at Duke and are cross-trained to work across different areas of the division. Staff members actively support the department's mission through ongoing participation in quality and process improvement efforts, resident and student education, as well as, research activities.





Overview of services

The Department of Pharmacy, Women's and Children's Hospital (~240 licensed beds) provides clinical and distributive services which support care of pediatric patients, obstetrics-gynecology, and 10 adult internal medicine patients in the inpatient setting. Distributive services are supported on the inpatient side by the 5th floor pediatric satellite pharmacy. The McGovern-Davison Children's Health Center ambulatory pediatric pharmacy services are supported by an infusion center pharmacy located on the 4th floor of the health center.

Inpatient pharmacy services

- Practice models within the pediatrics division are both integrated as well as specialized. Clinical pharmacists participate in daily patient care rounds to develop individual pharmacotherapy plans, provide medication and dosage recommendations/adjustments, pharmacokinetic evaluation and dosing, parenteral nutrition management, code blue and rapid response participation, education, research and publication.
- Specialized practice areas include pediatric bone marrow transplant (16 beds), pediatric intensive care (16 beds), pediatric cardiac intensive care (13 beds), and neonatal intensive care (60 beds) units.
- General pediatric pharmacists participate in rounds daily on 3 general pediatric services, infectious diseases, hematology-oncology, cardiology, neurology, gastroenterology, solid organ transplant and allergy/immunology.
- The 5th floor pediatric satellite pharmacy supports the medication needs of these patient populations in collaboration with the Inpatient Operations Division.

Ambulatory pharmacy services

- The Children's Health Center Pharmacy is a sterile compounding facility located on the 4th floor of the Children's Health Center building.
- Both low and medium risk doses of hazardous and non-hazardous compounded sterile preparations are provided to ambulatory pediatric patients.
- Clinical pharmacists, in collaboration with providers, monitor appropriateness of drug, dosage, frequency, and adherence to protocols. Additionally, clinical pharmacists and technicians support investigational drug use.

Mission

To deliver optimal patient- and family-centered pharmaceutical care through evidence-based practice.

Goals

- To optimize medication therapy
- To prevent adverse effects
- To continuously improve medication safety for our patients and families
- To be a leader in best practices
- To be a leader in innovative research that contributes to prevention and effective treatment of childhood diseases
- To contribute to the overall body of knowledge

Availability

Women's and children's inpatient pharmacy services are provided 24 hours per day, 7 days per week through the clinical and distributive staff and satellite pharmacy. The pediatrics division collaborates with Inpatient Operations to provide comprehensive services. The Children's Health Center Ambulatory Pharmacy operates 8:00 AM to 5:00 PM, Monday through Friday. Weekend coverage is provided through inpatient services.

Major Accomplishments

- Developed and implemented partial dose workflow pilot
- Developed, reviewed and approved plan for CHC ambulatory clinical services in heme/onc and neuro/onc
 - Improve patient continuity of care, especially when admitted as inpatient
 - Improve patient education with protocols
 - Provide clinical pharmacists greater variety and work satisfaction
- IV chlorothiazide guidelines implemented
- Pharmacy Admission process implemented
- Maestro Care provider preference lists optimized
- Weekly safety huddles with both pharmacists and technicians
- Implemented work on Beacon protocols to mitigate re-work and decrease potential for errors during ambulatory admission to inpatient
- Hyperkalemia order panel developed
- Pediatric insulin ordering units modification is in process to enhance safety
- Low dose ketamine infusion for pain developed, approved and built in Epic
- Alaris pump upgrade completed to match Epic build for carrier fluids with focus on intermittent fluids next
- Pediatric varicella occurrence contained
 - Identified at-risk patients and completed treatment in a timely manner
- Nexplanon second-level review process more clearly defined
- Unit of use narcotic syringes Phase I completed
- Process established for CHC clean room to prepare daily inpatient emergency medication stock bags
- 30 hour methotrexate infusion process improvement completed
- Positive pressure clean room temperature excursions resolved
- Developed and implemented technician performance survey

Developed and implemented guidelines for use for palivizumab and IV ethacrynic acid

Continued weekly safety huddles with pharmacists and technicians

Addition of new isolator hood for sterile product preparation in pediatric satellite pharmacy

Our Team

The pediatrics team is comprised of well-trained, highly committed pharmacists and technicians who collaborate with medical and nursing staffs and colleagues to optimize medication use among a high-risk, vulnerable patient population. Many staff members are tenured and cross-trained to function and support multiple sub-specialty practice areas. A number of pharmacists have completed one or two residencies and/or fellowships. Many pharmacists are and have been board certified in pharmacotherapy as well as oncology pharmacy and look forward to board certification in pediatrics which is now offered through The Board of Pharmacy Specialties. Staff members actively support the department's mission through ongoing participation in quality and process improvement efforts, resident and student education, as well as, research activities.

Committee Memberships

CH Pharmacy and Therapeutics Committee
Children's Core Safety Team
Anticoagulation Task Force (DUHS)
Formulary and Informatics Committee
Birthing Center Executive Committee
ICN Executive Committee
ICN Mortality and Morbidity Committee
Infusion Pump Quality Oversight Committee

Institutional Review Boards
DUH Medication Safety Committee
Pediatric ADE Review Committee
Pediatric Chemotherapy Safety Committee
Pediatric Sedation Committee
Pediatric Nutrition Support Committee
PICU/PCICU Mortality and Morbidity
PICU/PCICU Patient Safety and Clinical
Quality Committee



**Overview of services**

The administrative and business services team strives to improve quality and perform essential administrative and business functions within the department of pharmacy at Duke University Hospital. The team is comprised of one (1) pharmacy manager, sixteen (16) pharmacy technicians, and two (2) support personnel. Services provided include:

- Interview patients admitted to Duke University Hospital (DUH) and in the Emergency Department (ED) at DUH to gather information regarding medications taken at home.
- Monitor the patient-pharmacy hotline and online contact us link established to allow direct access to a pharmacist to answer questions or respond to concerns regarding any medication related issues
- Perform monthly medication area inspections to improve patient safety and regulatory compliance
- Conduct routine and random environmental and personnel testing for the 11 sterile preparation areas at Duke University Hospital
- Monitor pharmacy charge capture and revenue management including manual charge entry
- Human resource and payroll processes
- Administrative oversight for smart pump drug libraries, Joint Commission readiness, and performance metric tracking
- Expense trending and cost accounting
- Continuing education processing for pharmacists and technicians

Our Team

The administrative and business services team was formed in July 2014 through uniting of several areas and includes:

- Eleven (11) Continuity of Care technicians
- Three (3) Pharmacy Administration office staff including an administrative assistant, HR Coordinator, and department Accountant
- Two (2) Revenue Management technicians
- Two (2) Quality Assurance technicians

Our team highlights the many advanced pharmacy technician roles available within the Department of Pharmacy at Duke. Our highly trained and skilled technicians perform many critical functions to help the department better serve our patients.

Availability

Our team is available during regular business hours. The continuity of care technicians will see patients every day of the year. They are available Monday through Friday from 7 AM until 10 PM and on the weekends and holidays from 8 AM until 6 PM. The Continuity of Care team can be reached via our triage pager at 970-0357. Other members of the team can be reached by calling the Pharmacy Administration office during normal business hours at 681-2414.

Major Accomplishments

- Firmly established the Continuity of Care team into the pharmacy admission process
- Continued expansion of the Continuity of care team technicians
- Trained fourth year pharmacy students to assist with the pharmacy admission process in collaboration with the COC team and pharmacy preceptors
- Continuous optimization of the COC team workflow, scheduling, and services

- Successfully established the Quality Assurance – Sterile Preparations technician position
- Added additional areas for the Medication Area Inspector to audit monthly
- Transitioned to electronic purchase requisitions for non-routine purchases
- Improved maintenance of employee files
- Establishing a proactive approach for expense management
- Expanded our continuing education activity offerings for staff

Center for Medication Policy

Ann Scates McGee



Overview of services

The Center for Medication Policy (CMP) is a team within the Department of Pharmacy that collaborates with healthcare professionals across the health system to promote safe, effective and fiscally responsible use of medications. The CMP integrates its activities with the clinical, safety, informatics, administrative, and drug distribution systems of the Department to optimize drug therapy for patients.

Functions of the CMP include:

- Answer patient specific and general inquiries regarding all aspects of medication use.
- Provide accurate, timely, unbiased evidence based drug information in support of rational medication therapy and policy.
- Provide support to the Pharmacy & Medication Management Committee and Pharmacy & Therapeutics Committee (P&T) and the respective subcommittees (Formulary Evaluation Teams, Formulary & Informatics Subcommittee, and Medication Safety Subcommittee).
- Participate in formulary management activities. Support the dissemination of drug information and medication policy updates via the Center for Medication Policy webpage, electronic newsletters, and staff meetings.
- Participate and support the conduct of medication use evaluations (MUEs). Query the MUE Universe tool to collect retrospective and real time medication utilization data for analysis for a variety of stake holders including P&T, Pharmaceutical Utilization Management Process (PUMP) and Value Analysis Team (VAT).
- Monitor and assist with the implementation of drug shortage action plans.
- Track and develop medication specific Risk Evaluation and Mitigation Strategies (REMS) programs.
- Review FDA safety communications to facilitate changes to formulary policies and informatics systems.
- Review and track departmental drug information reference subscriptions.
- Provide a learning environment in which pharmacy students and residents can acquire or enhance skills necessary to research and respond to medication related queries and review and develop formulary related policies.
- Provide a learning environment for the drug information resident to acquire and develop skills integral to the practice of hospital based drug information.

Locations and Hours of Operation

The CMP is located in the 0 level of Duke North across from North Central Pharmacy, and is staffed Monday through Friday from 8 AM to 5 PM. After hours consultations are provided by an on-call system (pager 919-970-8110). Non-emergency requests may be left on voicemail (919-684-5125).

Major Accomplishments

- In FY15, the CMP continued to lead formulary review through a health system process
- In FY15, the Medication Stewardship pharmacist joined the CMP team to coordinate the Pharmacy Utilization Management Program (PUMP).
- Continued to develop and implement therapeutic interchange programs as a way to guide the use of formulary medications.
- Supported Care Redesign Teams
- Supported the drug shortage policy by participating in the development and implementation of drug shortage action plans.
- Maintained an up-to-date Center for Medication Policy website that provides current medication formulary and policy information. This website is accessible across DUHS
- Supported the 9 Formulary Evaluation Teams (FET) to meet the desired health system goals as outlined in the FET charter.
- Collaborated with pharmacists and technicians from IT, operations, procurement and business finance to devise processes for implementing formulary changes and policy updates into IT systems in a timely manner.
- Monitored non-formulary medication use and made suggestions for change to reduce overall utilization. Contributed to exceeding the balanced score card performance target for non-formulary medication use.
- Collaborated with the Pharmacy Education Committee to develop research project ideas for 15 UNC students to complete research projects at Duke.

FY15: More than 10 drug shortage action plans implemented

FY15: CMP supported the formulary review of 50 medications, completion of 28 MUEs, 5 REMS policies, and 5 therapeutic interchange programs

In FY15, the CMP precepted 16 pharmacy students and 6 pharmacy residents on rotation.

Our Team:

The CMP team is made up of well trained, highly-committed pharmacists who work collaboratively with those in the Department and throughout DUHS to help in the review and development of processes that help meet the medication needs of patients. All team members have completed one or two residency training programs. Some team members are Board Certified Pharmacotherapy Specialists. All support the department's mission through ongoing participation in quality and process improvement efforts, resident education, and research activities. Team members are members of state and national pharmacy organizations. The team makes contributions to the profession through internal and external publications and presentations.



References:

The CMP maintains an up-to-date core library of medical, pharmacology, and pharmacy practice texts and electronic references. Drug information references are evaluated as needed for suitability and need for purchase or renewal. Journals and textbooks may be "signed out" for use outside of the CMP. A drug-name based filing system is used to store reprints, product literature and correspondence from manufacturers and other data that may be useful in providing a drug information response or project support.

Investigational Drug Services

Beth McLendon-Arvik

Overview of services

The Department of Pharmacy Investigational Drug Services supports clinical research involving study drugs for Duke Investigators and supports safety and care for subjects in both the inpatient and outpatient care areas. The Investigational Drug Services integrates its activities with the clinical, safety, informatics, administrative, and drug distribution systems of the Department to optimize study drug therapy for patients.

These services include:

- Integrity of blinding
- Regulatory compliance
- Prevention of errors involving study drugs
- Dispensing of investigational products in a timely manner
- Contribution to study design and data integrity
- Randomization and study drug accountability
- Aseptic preparation in a USP 797-compliant environment and distribution of both hazardous and non-hazardous study drugs
- Procurement of drugs and supplies for studies as needed
- Preparation of Drug Data Sheets for study drugs
- Inservices and education for inpatient studies
- Collaboration with DUH pharmacists to prepare and dispense study drugs as appropriate for patient care



- Education of Pharmacy students and residents regarding the research process and evaluation of literature

Our Team

Study drugs are dispensed from three primary areas, the Investigational Drug Service (IDS), the Investigational Chemotherapy Service (ICS) and the Infectious Diseases Research Pharmacy (IDRP). The Investigational Drug Service teams are made up of well trained, highly-competent and committed pharmacists, clinical trial specialists, clinical research coordinators, a technician and an accounting clerk II. These members work collaboratively with internal and external customers to meet the needs of study coordinators, investigators and subjects throughout the Duke Health System. Most of the staff members have greater than 15 years of experience at Duke and have worked with research for at least 6 years. IDS, ICS and IDRP Team members actively support the department's mission through IRB membership, Clinical Research Unit membership, participation in quality and process improvement efforts, resident and student education, as well as, research activities.

Availability and Location

The Investigational Drug Services are staffed Monday through Friday from 8 AM to 4:30 PM. Arrangements are made to ensure study success for subjects needing study drugs outside of these hours. A team member from all services is on-call 24/7. (IDS on-call pager 970-8392; ICS and IDRP: individual team members via paging web). Non-emergent requests may be left on voicemail (IDS: 684-3543; ICS: 668-0657; IDRP: 681-1788). The IDS is located on the basement level of Duke Clinic at 0101b, Yellow Zone. The ICS is located within the Cancer Center Infusion Pharmacy on the fourth floor, room 4N33, of Duke Cancer Center. The IDRP is located within the infectious disease clinic, 1K room 1346.

Major Accomplishments

- Maestro Care:
 - Creation of study drug builds for all IRB approved studies
 - Validation of over 130 order sets/protocols containing study drugs.
 - Ongoing education and collaboration with study coordinators and investigators regarding study drug order entry options for Maestro Care
 - Ongoing collaboration with DOCR, IRB and study teams for validation of study drug order sets/protocols and study drug build
 - Education of study coordinators and investigators regarding study drug order entry options for Maestro Care
 - Additional FTE (Clinical Coordinator) approved to support this new work
 - In addition to routine audits, ICS had 3 cooperative group audits:
 - 8/6/2014 – GOG/NRG audit
 - 6/18/2015 – ACCRU audit
 - 6/24/2015 – BMT CTN audit
 - Hosted Clinical Research Pharmacists from external sites:
 - Marquette 3/18/2015
 - Indian River 4/20/2015 and 4/21/2015
 - MUSC 4/23/2015
 - Comprehensive Cancer Center Core Grant Renewal
 - Developed and presented a poster at 3 separate meetings to highlight the work and support provided by the ICS for oncology research studies –Basic Science Day DCI Scientific Retreat
- In FY15 IDS had:*

 - 159 new studies initiated
 - 139 studies closed out
 - 1,787 patients enrolled
 - 52 audits
 - 158 site initiation visits and pre-site selection visits
 - 740 interim monitoring visits
 - 9,895 study drug dispenses

- ICS participated in the 60 Minutes filming of preparation of PVSRIPO, a new investigational agent developed at Duke for glioblastoma. Filming occurred 10/29/2014. The 60 minutes show AIRE in March 2015.
 - Completed the primary clinical pharmacist review for 41 protocol for Beacon builds
 - Received 5 Cancer protocols after the acquisition of the Cancer Centers of NC while the buildings in Cary and Macon Pond were renovated and contracts were completed. These protocols were maintained through the end of FY2015.
- IRB Coverage: with the help of department of pharmacy pharmacist, 60/92 IRB meetings were covered by a pharmacist



Medication Safety

Melissa King

Overview of services

Three pharmacists and one full-time data administrator comprise the dedicated and experienced staff in the Medication Safety division. Services provided include:

- Management, investigation, and scoring of medication-related events reported via the Safety Reporting System (SRS)
- Administration of peer review process for medication-related SRS events
- Generation of monthly and quarterly reports which permit ongoing monitoring, trending, and analysis of medication related safety issues
- Preparation of ad hoc and custom reports to support the safety efforts at local, clinical service unit, institution, and health system levels
- Facilitation of discussions around trends or specific medication related events which lead to actions aimed at addressing system failures and associated root causes
- Biweekly distribution of the Institute for Safe Medication Practices Newsletter
- Development of formal and informal safety data presentations tailored to audiences across the health system



- Consultations regarding specific safety issues, new products, and label changes
- Education and promotion of safe medication practices

Locations and Hours of Operation

The Medication Safety Office is located on the ground floor of Duke North across from the North Central Pharmacy and is staffed weekdays 7 AM to 5 PM. Services are covered by pager at all times.

Major Accomplishments

- Maintained an active and engaged Medication Safety Committee
- Continued to lead and participate on multiple CSU level safety committees
- Smooth transition from the legacy SRS system to the RL Solution vendor based Safety Reporting software launched June 23, 2014 without interruption in level of service and have since expanded services.
- Encouraged and recognized pharmacy department participation in SRS reporting which resulted in a 5% increase in participation, from 226 to 238 reporters identifying themselves as pharmacists or pharmacy technicians and 100% of them providing their identity. Since April 2015, anonymous reporting is no longer possible.
- Generated over 93 adhoc reports for quality improvement and medication safety initiatives used to identify actions aimed at addressing system failures (50% increase)
- Collaborated with DHTS to set up the RL Solutions Safety Reporting universe and the Legacy Safety Reporting universe in Business Objects which allows for more efficient report generation and ensures recovery of data captured via the Legacy SRS program.
- Provided education and guidance to file managers interested in RL Solutions report writing tools and created safety reporting templates to be utilized by file managers.
- Participated in the NoCVA Hospital Engagement Network to identify risk reduction strategies for the use of warfarin. Reviewed over 112 patients' medical records using a refined NoCVA warfarin/INR trigger and identified 79 adverse drug events between September 2014 and June 2015. 34 events (43%) were considered potentially preventable.

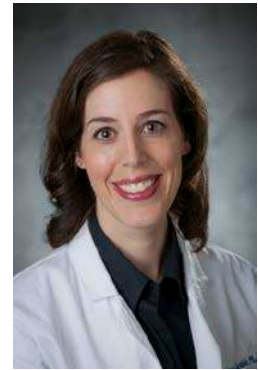
*Increased overall "Good Catch" reporting to **46%** of medication-related safety events.*

*Implemented **113** system improvements, enhancements and optimizations resulting in safer medication use*

*Reviewed, investigated, and analyzed **5262** medication-related SRSs in FY15*

Our Team





Overview of services

The Antimicrobial Stewardship and Evaluation Team (ASET) is dedicated to enhancing the quality of antimicrobial use throughout Duke University Hospital. ASET works collaboratively with clinical pharmacists, medical staff and other healthcare workers to provide safe, efficacious, and cost-effective drug therapy to optimize outcomes in patients with infectious diseases.

Functions of ASET include:

- Performing hospital-wide prospective and retrospective antimicrobial review, feedback and intervention
- Participating in the development of infectious-diseases related protocols and order sets
- Updating DUH infectious diseases guidelines to improve antibiotic decision-support for clinicians relating to the selection, dose, duration, and monitoring of antimicrobials
- Analyzing prescribing and utilization patterns to identify trends and improvement opportunities
- Working to ensure optimal compliance with anti-infective related clinical pathways and guidelines
- Participating in the conduct of didactic and experiential training of present and future physicians and pharmacists in principles of antimicrobial stewardship

Availability

An ASET member is available Monday through Friday 8 AM to 5 PM.

Major Accomplishments

- Collaborated with Maestro Care team to develop a clinical decision support system within Epic to deliver point of care best practice alerts pertaining to antimicrobials
- Piloted a penicillin allergy program which improved allergy documentation and antibiotic therapy in patients with a reported penicillin allergy
- Launched updated customID website to assist providers with clinical decision support pertaining to antimicrobial selection, dosing and monitoring
- Reviewed numerous drug monographs and MUEs pertaining to antimicrobials
- Supported TOF initiatives including the development of the HOA Anti-infective Prophylaxis Protocol and DUHS Sepsis Care Redesign
- Provided quarterly expenditure and utilization reports to DUH administration
- Participated in internal medicine, pharmacy, pediatric, and surgery educational conferences

*Facilitated over 300
ID Consults for
patients with
Staphylococcus
aureus bacteremia
and fungemia*

Our Team

Christina Sarubbi, PharmD, BCPS
Deverick Anderson, MD, MPH; ASET Medical Director
Coleen Cunningham, MD
Rebekah Moehring, MD, MPH
Richard Drew, PharmD, MS



Overview of services

The Duke University Hospital Adult Nutrition Support-Total Parenteral Nutrition Team (NSS-TPN) is a multidisciplinary collaboration between physicians, pharmacists, dietitians and nurses. It is a consult service for TPN that works in concert with the primary team, as well as the patient, to evaluate the need for specialized nutrition support for the adult patient population. Once the patient is determined to require specialized nutrition therapy, the team:

- Evaluates and determines the appropriate route of therapy including enteral or parenteral therapy
- Develops a nutrition care plan; verifying proper type, placement, and care of parenteral or enteral access including inserting enteral feeding tubes with a specialized device (Cortrak)
- Documents nutrition care plan and goal of therapy in the electronic medical record as agreed upon by the ordering team
- Initiates and manages patient specific parenteral nutrition for adult inpatients, including nutrition product evaluation and management of significant product shortages
- Initiates and manages patient specific enteral nutrition or diet until deemed appropriate to sign over to unit-based registered dietitians
- Evaluates drug therapy (including antibiotic therapy, prokinetic and antimotility agents, opioid sparing pain management, appetite stimulants, short bowel drug therapy, iron replacement, etc.), electrolytes, fluid and recommending changes as it pertains to nutrition care for the patient
- Reevaluate patient periodically to transition patient to a lower level of support, as appropriate (eg. Return to oral diet or transition from TPN to tube feeds)
- Coordinate transition to home or facility (when applicable including proper patient transport and providing guidance to other institutions for making TPN with their available products and vice versa)
- Manages patients receiving parenteral nutrition at home

For patients who require parenteral support after discharge, the NSS-TPN Team plays an integral role in evaluating the adult patient for appropriate therapy and providing guidance to discharge planners to request financial approval and home health services. The NSS-TPN Team provides support for Home Total Parenteral Nutrition (HTPN) patients by:

- Coordinate training to the patient and/or caregiver to be independent with the therapy in the home environment
- Monitor patient clinical condition for response to therapy
- Adjust TPN therapy as appropriate
- Wean TPN once goals of therapy have been achieved.
- Document all interventions in the electronic medical record.

The education of future nutrition support practitioners is facilitated through mentoring of pharmacists, dietitians, students, residents and other multidisciplinary staff

Major Accomplishments

- A partnership was created between DUH and Duke Home Care and Hospice to enhance the HTPN programs safety, quality and excellence. The purpose is to implement and develop policies and procedures designed to improve and refine the patient experience with Home TPN. A HTPN workflow diagram was produced that outlines the integration of care and defines responsibilities. The merger provides all Duke TPN patients the benefits of better coordination of care, insures following Duke Standards of care, and the

ability to review the home care process to identify areas that need improvement and implement changes that insure maintaining a high standard of care

- Supported development of HTPN process in Maestro Care. Improvements include: development of home TPN standardization with creation of Home TPN Orderset containing decision tree to guide therapy, creation of dot phrases to provide a framework for TPN care, creation of flow sheet and standard smart text formatting with refreshable links for HTPN orders and documentation, and utilizing new EPIC function to enter external labs, incorporating the external data with the internal for enhanced safety with nutrition therapy for the Duke Health System
 - The team-based nutrition support model was restructured to integrate decentralized practitioners as they become credentialed. Collaboration with floor pharmacists, dietitians and the primary team for nutrition therapy on Duke North surgery 21/23 units, surgery intensive care unit, and adult bone marrow transplant unit was implemented, to provide redundancy for nutrition therapy. Five TPN/NSS clinicians in these areas completed the nutrition support curriculum including credentialing and validation to form a strong core of practitioners from which to build expertise.
- Continuing pharmacy led monthly multidisciplinary Nutrition Council meetings to assist with the development of and maintenance of skilled Nutrition Support practitioners for adults and pediatrics so that participants from several disciplines can come together to discuss ways to provide safer, more effective TPN therapy. Multidisciplinary professional continuing education was added to the Formal Nutrition Council presentations.
- Continue to build on the the nutrition support forum. The forum provides resources for nutrition therapy and is located on the Pharmacy Department website.
- Updated the content of the TPN section of the Pharmacy Pocket Guide and the Dietitian Pocket Guide to reflect current practice

Partnership created between DUH and Duke Home Care and Hospice to enhance HTPN programs safety, quality, and excellence

Oncology Pharmacy Programs

Sally Barbour

Overview of services

Oncology pharmacy specialists at Duke provide patient care to adult and pediatric cancer populations in both the inpatient and outpatient settings. Clinical services are tailored to patient care needs and include but are not limited to pharmacotherapeutic medication management, therapeutic drug monitoring, pharmacokinetic dosing, nutrition support, drug information, symptom management, supportive care, and patient education.

The pharmacy team is also responsible for safely compounding and dispensing chemotherapy. Pharmacists work collaboratively with other health care providers to provide safe, efficacious, and cost-effective drug therapy to optimize outcomes in patients with malignant diseases. Oncology practitioners are involved in the development, support, and management of research/investigational protocols. Additionally, the education of future pharmacy practitioners is facilitated through mentoring of pharmacy students and residents in a variety of clinical settings.



Locations and Hours of Operation

Currently, oncology pharmacists practice in the following areas:

- Ambulatory Oncology Clinics
 - Hematologic Malignancies, Genitourinary, Gastrointestinal, Thoracic, Breast, Sarcoma, Brain Tumor, Adult Bone Marrow Transplant (BMT), Pediatric BMT
- Inpatient Oncology Services (CPCS)
 - Hematologic Malignancies, Solid Tumors, Adult BMT, Pediatric BMT, Pediatric Oncology
- Infusion Pharmacies
 - Cancer Center Infusion Pharmacy
 - North Pavilion
 - Rainbow Day Hospital
- Investigational Chemotherapy Services

*200+ standardized
chemotherapy
regimen education
sheets developed*

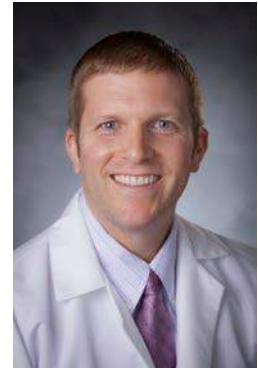
Major Accomplishments

- Continued support and development of Beacon templates supporting standardization and enhanced safety with chemotherapy regimens
- Continued development of standardized chemotherapy patient education materials
- Continuation of Duke Oncology Pharmacy Oral Chemotherapy Management Program
- Continuation of call back program for patients at high risk for chemotherapy induced nausea and vomiting
- Continuation of monthly oncology pharmacy meetings
- Provide clinical review and justification for Medicare audits
- Increase to 6 Clinical pharmacist practitioners (CPP's) within the oncology group
- Monthly in-services for Duke Cancer Center Treatment Center
- Participation in the Duke Oncology Network Pharmacotherapy Updates in Cancer Series
- Participation in oncology fellow lecture series
- Providing dinner at Caring House
- Creating and sending quarterly newsletter to oncology practitioners across Health system
- Participation in teaching daily Chemotherapy Education Class
- Participation in the development of standardized chemotherapy education information sheets
- Participation in Transforming our Future initiatives for Hematologic Malignancies
- PGY2 Oncology Resident became a board certified pharmacotherapy specialist
- Continue to drive oncology prescriptions to the Duke Cancer Center Specialty Pharmacy
- Two publications originated from the oncology pharmacy group

*5200+ patient
encounters in
ambulatory oncology
clinics with
pharmacists*

Transplant Pharmacy Programs

Matt Harris



Overview of services

Clinical pharmacy services are provided for heart, intestine, kidney, liver, lung, and pancreas transplant patients across the continuum of care at Duke Hospital. Six full time pharmacists and one PGY2 transplant resident comprise the pharmacy transplant team. Services provided include:

- Involvement in the care of patients and donors in the pre-, peri-, and post-operative settings
- Identifying, solving and preventing medication-related problems or deficiencies in the solid organ transplant population and living donors for the abdominal and thoracic transplant programs
- Documenting pre- and post-transplant immunosuppressive plans
- Providing education regarding the safe and effective use of medications in the post solid organ transplant population to patients/families and the healthcare team
- Assisting the transplant teams in medication protocol development, review and revision on an on-going basis
- Development and management of investigator initiated research and Pharmacy Utilization Management Programs
- Training students and residents in a variety of clinical settings

Transplants performed (July 1, 2014 to June 30, 2015)

○ Kidney	143
○ Kidney/pancreas	11
○ Liver	85
○ Lung	111
○ Heart	71

Locations and Hours of Operation

Services are provided by a Transplant Clinical Pharmacist seven days a week and all of the pharmacists are available by pager for after-hours questions or concerns. Currently transplant pharmacists practice in the following areas:

- Ambulatory Clinics
 - Abdominal Transplant
 - Hepatology/Hepatitis C
 - Lung transplant
 - Heart transplant
- Inpatient Coverage (CPCS)
 - Adult abdominal transplant
 - Pediatric abdominal transplant
 - Heart transplant/heart failure
 - Surgical lung transplant
 - Medical lung transplant
- Ambulatory Pharmacy
 - Duke Cancer Center Specialty Pharmacy

Major Accomplishments

- Created a protocol on the peri-operative management of the target specific oral anticoagulants after abdominal transplant
- For the seventh year in a row the PGY2 Transplant Resident became a board certified pharmacotherapy specialist

- Continue to drive post-transplant prescriptions to the Duke Cancer Center Specialty Pharmacy with millions of dollars in revenue per year
- Two publications originated from the transplant pharmacy group
- Four podium presentations and one poster presentation at the 2014 World Transplant Congress. The poster presentation designated as a poster of distinction
- Two poster presentations at the 2015 American Transplant Congress

Team Members

Matt Harris, PharmD, MHS, BCPS	Director Transplant Pharmacy Programs
Jennifer Gommer, PharmD, BCPS	Inpatient Abdominal Transplant Clinical Pharmacist
Jennifer Byrns, PharmD, BCPS	Ambulatory Abdominal Transplant/Hepatology Pharmacist
Mara Watson, PharmD	Inpatient Heart Transplant Clinical Pharmacist
Clark Benedetti, PharmD	Ambulatory Thoracic Transplant Clinical Pharmacist
Amanda Hulbert, PharmD, BCPS	Inpatient Lung Transplant Clinical Pharmacist
Bryant Summers, PharmD	PGY2 Transplant Resident

VI. Research Program

Pharmacy Research Committee

Purpose

The Pharmacy Research Committee is a scientific advisory committee designed to enhance pharmacy staff, resident and student knowledge and participation in research.

Committee Function

The scope of the committee responsibilities shall include:

- **Oversee, guide and facilitate research activities to include:**
 - study feasibility assessment
 - compliance with Investigational Review Board requirements
 - adherence to data security requirements via review of the Research Data Security Plan
 - compliance with institutional training requirements
- **Identify and arrange extra-departmental research support resources which may include:**
 - statistical consulting services
 - Clinical Research Unit /Institutional Review Board protocol review
 - Duke Office of Clinical Research (DOCR) review
- **Issue a call for research project ideas on an annual basis and maintain a directory of interested research preceptors and their areas of research interests**
- **Establish guidelines/timelines for research projects**
- **Provide assistance to preceptors in developing suitable research projects**
- **Review and provide feedback to study investigators on Research Project Outlines and Research Protocols (including evaluation of scientific merit, design, feasibility, relevance to internal/external audiences, resources and regulatory compliance)**
- **Make recommendations to the Pharmacy Senior Management Group (SMG) regarding approval of projects**
- **Review and provide feedback on abstracts and presentations. Specific feedback shall be provided to pharmacy residents in preparation for the University Healthsystem Consortium (UHC) meeting and Southeastern Residency Conference (SERC)**
- **Review and provide feedback on final research report in manuscript format prior to publication**
- **Perform an annual assessment of the effectiveness of the resident research process**
- **Assess pharmacy staff and residents' learning needs regarding necessary research skills and facilitate the scheduling of research training sessions to meet these needs and those required by the institution**
- **Ensure that investigators maintain a regulatory file, which may be held electronically. Recommended contents of the files could include documents such as a project staff list and training updates, all IRB communications, a copy of the protocol and if applicable, consent templates.**

Membership

Udobi Campbell, PharmD, MBA - Chair
Associate Chief Pharmacy Officer

Justin Geurink, PharmD, BCPS
Pharmacy Manager, Clinical and Patient Care Services

Matt Harris, PharmD, MHSc, BCPS
Director of Transplant Pharmacy Programs
Clinical Pharmacist, Abdominal Transplant
PGY2 Transplant Residency Program Director

Stephen W. Janning, PharmD
Director of Clinical Development
GlaxoSmithKline
(Formerly, Clinical Coordinator, Duke University Hospital Department of Pharmacy)

Bridgette Kram, PharmD, BCPS
Clinical Pharmacist

Beth McLendon-Arvik, PharmD
Manager, Duke Investigational Drug Service and Investigational Chemotherapy Service
Director, PGY1 Pharmacy Residency

Meredith T. Moorman, PharmD, BCOP
Clinical Pharmacist, Adult Hematology/Oncology Clinic

Russell Moore, PharmD, BCOP, CPP
Clinical Pharmacist, Genitourinary Medical Oncology

Cathy Vaughan, PharmD
Drug Information Specialist
Center for Medication Policy

Jennifer Bryns, PharmD, BCPS
Clinical Pharmacist, Ambulatory Abdominal Transplant



VII. Educational Program

Pharmacy Education Committee

Purpose

To promote and support educational activities of the department of pharmacy.

Committee Function

- To establish and maintain an education committee,
- To support the educational needs of department of pharmacy staff (including residency programs offered by Duke University Hospital) and learners from affiliated schools/colleges of pharmacy through sub-committees charged with specific responsibilities and accountabilities

Subcommittees

Subcommittees for the following areas will assume accountability and responsibility for assigned educational needs:

- Residency Program Noon Conference: Grand Rounds and Case Conferences
- Annual Winter/Spring Symposium
- Preceptor Development
- UNC ESOP APPE Student Learning Experience Scheduling and Support
- UNC ESOP 4th Year Student Clerkship Research Projects
- UNC ESOP 4th Year Seminar Class: Fall and Spring Semester activities
- UNC ESOP and CU COP IPPE Student Clerkships
- Campbell University COP 4th Year Student Learning Experience Scheduling and Support
- UNC ESOP 4th Year Student Advisory Committee

Membership

Jenny Mando-Vandrick, PharmD, BCPS
Clinical Pharmacist – Emergency Services
Chair – Residency Noon Conference Subcommittee

Doug Raiff, PharmD, BCPS
Clinical Pharmacist – Medication Policy
Chair - Annual Winter/Spring Symposium Subcommittee

Dustin Wilson, PharmD, BCPS
Clinical Pharmacist – Medicine
Assistant Professor, Campbell University College of Pharmacy and Health Sciences
Chair – Preceptor Development Subcommittee

Kristen Bova Campbell, PharmD, BCPS, AQ-Cardiology, CPP
Clinical Pharmacist - Cardiology
Chair - UNC ESOP APPE Student Learning Experience Scheduling and Support Subcommittee

Ann Scates McGee, PharmD
Director, Center for Medication Policy
Chair - UNC ESOP 4th Year Student Clerkship Research Projects Subcommittee

Justin Geurink, PharmD, BCPS
Manager, Clinical and Patient Care Services
Chair - UNC ESOP 4th Year Seminar Class: Fall and Spring Semester activities

Mary Margaret Johnson, PharmD, MBA, MSCR
Clinical Pharmacist – Duke Compounding Pharmacy
Chair - UNC ESOP and CU COP IPPE Student Clerkships

Evan Frasure, PharmD, BCPS
Manager, Administrative and Business Services
Chair –Non-affiliated

Mathew Kelm, PharmD, MHA
Manager, Unit Dose Drug Distribution
Chair – Pharmacy Technician Training

Grayson Peek, PharmD, MS, BCPS
PGY II Health System Pharmacy Administration Resident
Chair – Pharmacy Internship Training

Paul Bush, PharmD, MBA, BCPS, FASHP - Chair
Chief Pharmacy Officer

VIII. Residency Programs

For over 40 years our program has been training residents to become competent pharmacy practitioners and leaders. Residents who complete our program have experienced success in obtaining competitive specialty residencies, fellowships, academic, clinical and pharmacy leadership positions.

Interest in our residency programs is consistently strong. This year was no different. Staff members reviewed hundreds of applications for 14 positions in our 2014-2015 class.

We extend our gratitude to our residency program directors:

- | | |
|------------------------------|---|
| ▪ Beth McLendon-Arvik | Post Graduate Year (PGY) 1* |
| ▪ Paul W. Bush | PGY1-2 Health-System Pharmacy Administration* |
| ▪ Kimberly Hodulik | PGY2 Ambulatory Care* |
| ▪ Kristen B. Campbell | PGY2 Cardiology* |
| ▪ Jennifer Mando-Vandrick | PGY2 Critical Care* |
| ▪ Ann Scates-McGee | Drug Information (with Glaxo Smith Kline) |
| ▪ Richard Drew/Dustin Wilson | Internal Medicine/Infectious Diseases/Academia
(with Campbell University School of Pharmacy) |
| ▪ Sally Barbour | PGY2 Oncology* |
| ▪ Julia (Jill) Lawrence | PGY2 Pediatrics* |
| ▪ Matthew T. Harris | PGY2 Solid Organ Transplantation* |

*ASHP-Accredited

2014-2015 Residency Graduates and Current Positions

The 2014-2015 residents successfully completed all requirements for graduation from Duke programs. These graduates include:

PGY1:

Nicole Casciello	PGY2 Transplant Pharmacy Residency, Houston Methodist
Jesse Fletcher	Clinical Pharmacist, Duke University Hospital
Debbie Yen	PGY2 Cardiology Pharmacy Residency, Duke University Hospital
Michael Wolcott	PhD. Candidate, Learning Sciences and Psychological Studies – University of North Carolina School of Education

PGY1-2 Health-System Pharmacy Administration:

Laura Meleis (PGY1)	PGY2 Health-System Pharmacy Administration Resident, Duke University Hospital
Grayson Peek (PGY2)	Coordinator – 340B Administration and Revenue Management, Duke University Hospital

PGY2 Ambulatory Care:

Drew Armstrong	Clinical Pharmacy Specialist, HIV Adult Special Care Clinic – Region One Health in Memphis, Tennessee
----------------	--

PGY2 Cardiology:

Teresa Cicci	Cardiology Clinical Pharmacist – Wake Forest Baptist Medical Center in Winston-Salem, NC
--------------	---

PGY2 Critical Care:

Sheena Merwine	Clinical Pharmacy Specialist, Emergency Medicine – Beaumont Hospital in Royal Oak, Michigan
----------------	--

Drug Information:

Stacy Hoover Associate Safety Scientist – Drug Safety Alliance in Durham, North Carolina

Internal Medicine/Infectious Diseases/Academia:

David Allen Infectious Diseases Clinical Pharmacy Specialist – St. Joseph’s Hospital, Savannah, Georgia

PGY2 Oncology:

Jessica Stover Clinical Oncology Pharmacy Specialist – Genitourinary – MD Anderson Cancer Center in Houston, Texas

PGY2 Pediatrics:

Sharon Martin Critical Care Clinical Pharmacist – Children’s Hospital Colorado in Aurora, Colorado

PGY2 Solid Organ Transplantation:

Mary Vacha Pharmacist Coordinator, Adult Liver Transplant and Clinical Assistant Professor at UNMC College of Pharmacy in Omaha, Nebraska

Chief Resident	Grayson Peek
Preceptor of the Year	Holly Causey
Residency Advocate Award	Michelle Kurht



Duke University Hospital Pharmacy Residency Class of 2014-2015
(Residents and Program Directors Pictured)

The 2015-2016 recruiting campaign successfully filled 14 residency positions offered at Duke. Listed below are the current residents their College of Pharmacy and/or previous PGY1 residency program:

PGY1:

Katelyn Harsh	Purdue University College of Pharmacy
Katie Lentz	University of Kentucky College of Pharmacy
Andrew McRae	University of Florida College of Pharmacy
Victoria Reynolds	University of Tennessee College of Pharmacy

PGY2 Ambulatory Care:

Emily Peedin	PGY1 Pharmacy Residency – Indianapolis VA Medical Center
--------------	--

PGY2 Cardiology:

Debbie Yen	PGY1 Pharmacy Residency – Duke University Hospital
------------	--

PGY2 Critical Care:

Brittiany Allen	PGY1 Pharmacy Residency – Loyola University Medical Center
-----------------	--

Drug Information:

Rebecca Call	UNC Eshelman School of Pharmacy
--------------	---------------------------------

Internal Medicine/Infectious Diseases/Academia:

Travis Jones	PGY1 Pharmacy Residency – Vidant Medical Center
--------------	---

PGY1-2 Health-System Pharmacy Administration/M.S.:

Mary Durham (PGY1)	University of Kansas School of Pharmacy
Laura Meleis (PGY2)	PGY1 Pharmacy Residency – Duke University Hospital

PGY2 Oncology:

Prakirthi Yerram	PGY1 Pharmacy Residency – Yale –New Haven Hospital
------------------	--

PGY2 Pediatrics:

Lisa Hutchins	PGY1 Pharmacy Residency – Nemours/ A.I.duPont Hospital for Children
---------------	---

PGY2 Solid Organ Transplant:

Bryant Summers	PGY1 Pharmacy Residency – Methodist Le Bonheur Healthcare – University Hospital
----------------	---

Chief Resident

Laura Meleis



IX. Milton W. Skolaut Leadership Award

Overview

The Milton W. Skolaut Leadership Award is awarded to a past resident of the Duke University Hospital Pharmacy Residency Program. This award recognizes an individual for outstanding leadership and contributions to the profession of pharmacy.

About Milton W. Skolaut

Milton W. Skolaut was born in San Antonio, Texas and earned a bachelor's degree in 1941 from the University of Texas College of Pharmacy. In 1952, Skolaut became Director of Pharmacy Services at the National Institutes of Health (NIH) Clinical Center in Bethesda, Maryland. While at the clinical center, Skolaut established the pharmacy as the central supply point for drug distribution, a relatively new concept at the time but one that quickly became the norm for hospitals nationwide.



Skolaut joined the staff of Duke Hospital in 1970, where he served for 17 years as Director of Pharmacy until his retirement in 1987. During Skolaut's tenure at Duke, the pharmacy established services that included the preparation of unit dose medication packages, intravenous admixtures, and total parenteral nutrient solutions. He was also responsible for the expansion of a pharmacy within the operating room suites, supplying all materials and medications to the Anesthesia Department. The Department of Pharmacy also instituted clinical services and a residency program under his leadership.

Mr. Skolaut was an active member of ASHP for many years, including serving as president from 1963-64. In 1968, he was one of the three visionary leaders that started the ASHP Research and Education Foundation. In 1979, Skolaut earned hospital pharmacy's highest honor, ASHP's Harvey A. K. Whitney Lecture Award.

Past Recipients

2014: Jill S. Bates, PharmD, MS, BCOP

2015: James C. McAllister III, MS, FASHP

Jim earned his Bachelor's and Master's degrees in Pharmacy from the University of North Carolina at Chapel Hill and completed his residency at Duke University Medical Center. Jim held numerous positions at Duke University Health System, including 12 years as Director of Pharmacy and three years as Associate Chief Operating Officer responsible for pharmacy, purchasing, materials management, international business development, corporate partnership development, and biomedical engineering.



He served as Director of Pharmacy at UNC Hospitals and Assistant and Associate Dean for Clinical Affairs at the University of North Carolina School Of Pharmacy for nine years until he retired in 2007. Mr. McAllister has formed his own consulting company, InvictusRx, through which he offers a variety of consulting services to hospitals and health systems, colleges of pharmacy, individuals, pharmaceutical companies, and other health-related clients.

X. Grants and Publications

Alexander B, Antigua A, Rosenberg A, Caruso L, Voils S, LeClaire A. Chemoprophylaxis use and risk of venous thromboembolism and death in adult patients following orthotopic liver transplantation. *J Pharm Pract.* 2015:1-6.

Allen D, Wilson D, Drew R, Perfect J. Azole antifungals: 35 years of invasive fungal infection management. *Expert Rev Anti Infect Ther.* 2015;13(6):787-798.

Beermann KJ, Ellis MJ, Sudan DL, **Harris MT**. Tacrolimus Dose Requirements in African-American and Caucasian Kidney Transplant Recipients of Mycophenolate and Prednisone. *Clin Transplant.* 2014; 28(7):762-7.

Campbell KB. 2015 American College of Cardiology Legislative Conference – Cardiovascular Team Travel Award

L'Hommedieu T, **DeCoske M**, El Lababidi R, Ladell N. Utilizing pharmacy students in transitions-of-care services. *Am J Health-Syst Pharm.* 2015 Aug;72:1266-68.

Heath T, O'Mara K, Krushinski JH, **Bush P**. Comparison of a pharmacist-performed and physician or advanced practice provider-performed medication history in pediatric patients. *Journal of Pharmacy Technology* 2015; 31(5): 219-22.

DeMeo S, Sherwood A, **Hornik CD**, Goldberg RN, Cotten CM, and Bidegain M. *Pulmonary Artery Thrombus in a Premature Neonate Treated with Recombinant Tissue Plasminogen Activator.* *Journal of Perinatology*; July 2014, Vol. 34 Issue 7.

Thaxton C, Carter B, **Hornik CD**. *Oxford Textbook of Palliative Nursing, Fourth Edition. Palliative Care in the Neonatal Intensive Care Unit.* Editors: Betty Ferrell, Nessa Coyle, and Judith Paice. Oxford. 2015.

Hornik CD, Malcolm WF. *Beyond the NICU: Comprehensive Care of the High-Risk Infant. Neonatal Abstinence Syndrome.* Editor: William F Malcolm. McGraw-Hill. 2014.

Bidegain M, **Hornik CD**. *Beyond the NICU: Comprehensive Care of the High-Risk Infant. Neonatal Palliative Care.* Editor: William F Malcolm. McGraw-Hill. 2014.

Edwards L, Demeo S, **Hornik CD**, Cotten MC, Smith PB, Bidegain M. *Gabapentin Use in the Neonatal Intensive Care Unit.* Duke Clinical Science Day. Durham, NC; 2015 and American Academy of Pediatrics National Conference. Washington DC; 2015

Hornik, CD. 2015 Duke GME Innovation Grant: Virtual Rounding to Enhance Communication with Families in the Intensive Care Nursery (PI: Susan Izatt)

Hornik, CD. 2014 Duke Academy for Health Care Educators (AHEAD) Grant: Interdisciplinary Step-Back Mentoring for Education Research (PI: Aditee Narayan)

Speen A, **Jones C**, Patel R, et al. Mechanisms of CDDO-imidazole-mediated cytoprotection against acrolein-induced neurocytotoxicity in SH-SY5Y cells and primary human astrocytes. *Toxicol Lett.* 2015;238(1):32-42.

Williams T, **King MW**, Thompson JA, Champagne MT. Implementing evidence-based medication safety interventions on a progressive care unit. *Am J Nurs.* 2014 Nov;114(11):53-62.

Kram BL, Kram SJ, Brooks KR. Implications of Atypical Antipsychotic Prescribing in the Intensive Care Unit. *J Crit Care*. 2015;30(4):814-818.

Rech MA, Day SA, Kast JM, Donahey EE, Pajoumand M, Kram SJ, Erdman MJ, Peitz GJ, Allen JM, Palmer A, **Kram BL**, Harris SA, Turck CJ; Critical Care Pharmacotherapy Literature Update Group. Major Publications in the Critical Care Pharmacotherapy Literature: January-December 2013. *Am J Health System Pharm*. 2015;72(3):224-236.

Gerardo CJ, Evans CS, Kuchibhatla M, **Mando-Vandrick J**, Drake W, Yen M, Kopec K, Lavonas EJ. Time to antivenom administration is not associated with total antivenom dose administered in copperhead-predominant snakebite population. *Acad Emerg Med*. 2015;22(3):308-14.

Muzyk AJ, May DB, Butler AC, et al. Implementation of a flipped classroom model to teach psychopharmacotherapy to third-year Doctor of Pharmacy (PharmD) students. *Pharmacy Education*. 2015;15(1):44-53.

Harward JL, Clinard VB, Jiroutek MR, Lingerfeldt BH, **Muzyk AJ**. Impact of a US Food and Drug Administration drug safety communication on zolpidem dosing: an observational retrospective cohort. *Prim Care Companion CNS Disord*. 2015;17(2):doi:10.4088/PCC.14m01728.

Fabo KR, Nye AM, Gagliardi JP, Dennis CR, **Muzyk AJ**. Evaluation of changes in citalopram prescribing patterns following a US Food and Drug Administration alert: a retrospective cohort study. *Prim Care Companion CNS Disord*. 2015;17(1):doi:10.4088/PCC.14m01657.

Kincaid BB, **Muzyk AJ**, Kanter RJ, Preud'homme XA. Manifestations of anxiety? Explaining tachycardia and hypertension in a patient with POTS. *Fam Med Sci Res*. 2015;4:153.doi:10.4172/2327-4972.1000153.

Stephens SA, **Muzyk AJ**, Woodworth M. Fluoxetine-induced atypical serotonin syndrome with hallucinations masquerading as a parkinsonian syndrome. *Fam Med Sci Res*. 2014;3:147.doi:10.4172/2327-4972.1000147.

Stover JT, Moore RA, Davis K, Harrison MR, Armstrong AJ. Reversal of PSA progression on abiraterone acetate through the administration with food in men with metastatic castration-resistant prostate cancer. *Prostate Cancer Prostatic Dis*. 2015;18:161-6.

Vacha M, Huang W, Mando-Vandrick J. The role of subcutaneous ketorolac for pain management. *Hosp Pharm* 2015;50:108-112.

Vora A, Campbell K. Colchicine for the Heart. Published online: Access Pharmacy. March 25, 2015

XI. Preceptor Awards:



Holly Causey, PharmD, BCACP, CPP, CDE –
Student Health System Preceptor of the Year –
UNC Eshelman School of Pharmacy

Resident Preceptor of the Year –
Duke University Hospital Pharmacy Residency



Brock Woodis, PharmD, BCPS,
BCACP, BC-ADM, CDE, CPP –
Student Preceptor of the Year –
Campbell University College of
Pharmacy and Health Sciences



Michelle Kuhrt, PharmD –
Resident Advocate of the Year –
Duke University Hospital Pharmacy Residency



Tim Lassiter, PharmD, MBA –
Student Preceptor of the Year –
Duke University Hospital Pharmacy Department

