



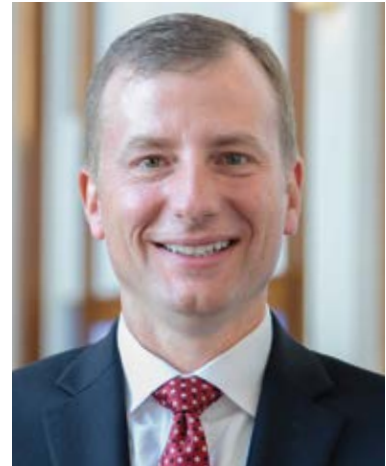
PHARMACY SERVICES
ANNUAL REPORT 2023

TABLE OF CONTENTS

Message from Brian D. Lenich	3
Lehigh Valley Health Network (LVHN) Inpatient Pharmacy Services	4
LVHN Hospital Locations	5
Lehigh Valley Pharmacy Services (LVPS) Fiscal Year 2023 Statistics	6
LVPS Locations Fiscal Year 2023	6
Fiscal Year 2023 Retail and Specialty Statistics	7
Medical Supplies Division	8
Billing and Accounts Receivable	8
Cancer/Ambulatory Infusion Centers	9
COVID-19 Vaccinations	10
LVHN 340B Program	10
Education	11
LVPS Organizational Chart	12
Clinical Services	14
Medication Safety	14
Inpatient Technology	15
LVPS Technology	15
Transition of Care (TOC) Program	16
Integrated Care Coordination – Population Health	17
Population Health	18
Strategic Plan for Fiscal Year 2024	19
Pharmacy Services Staff	20
Presentations/Publications/Posters	21

GREETINGS FROM THE VICE PRESIDENT

I am pleased to present the Fiscal Year 2023 Annual Report. This report outlines the accomplishments made by Pharmacy Services as we further our mission to heal, comfort and care for the people of our community. To succeed, we continue to be guided by the Quadruple Aim, a framework that helps us produce better health, better care, better cost, and a better colleague experience. Pharmacy Services continues to innovate, providing the highest level of pharmacy service to our patients through outstanding clinical services, and a distribution model that provides safety and efficiencies like no other.



The safety and quality performance across all sites continues to shine as we dispensed over **11** million doses in FY23. Our retail, infusion and specialty divisions continue to grow financially while providing high-quality patient care and customer service. In fiscal year 2023, those divisions generated **\$29** million in operating income. Additionally, our alignment with the LVHN Health Plan continues to offer significant savings to the network.

New additions to our report this year include our Transition of Care (TOC) and 340B programs. The TOC team assists our patients during admission as well as after discharge with activities supporting positive outcomes such as education and adherence. Their work has made a huge impact on 90-day readmission rate, decreasing admissions by almost 13%. The 340B program at LVHN allows us to purchase outpatient drugs at a reduced cost. These savings help us to reach more patients and provide more services throughout our network. Overall 340B savings for FY23 totaled **\$101,856,342.84** between our four main Covered Entities and their corresponding Child Sites.

Continuing our commitment to keeping our patients and colleagues safe, the pharmacy helped to facilitate the administration of over 49,000 doses of COVID vaccines, bringing our total doses administered to over **650,000** doses since the vaccines became available in December 2020.

I am honored to be part of such an incredible team and am looking forward to another exciting year ahead.

Best Regards,
Brian D. Lenich, RPh, MBA
Vice President, Pharmacy Services

LVHN INPATIENT PHARMACY SERVICES

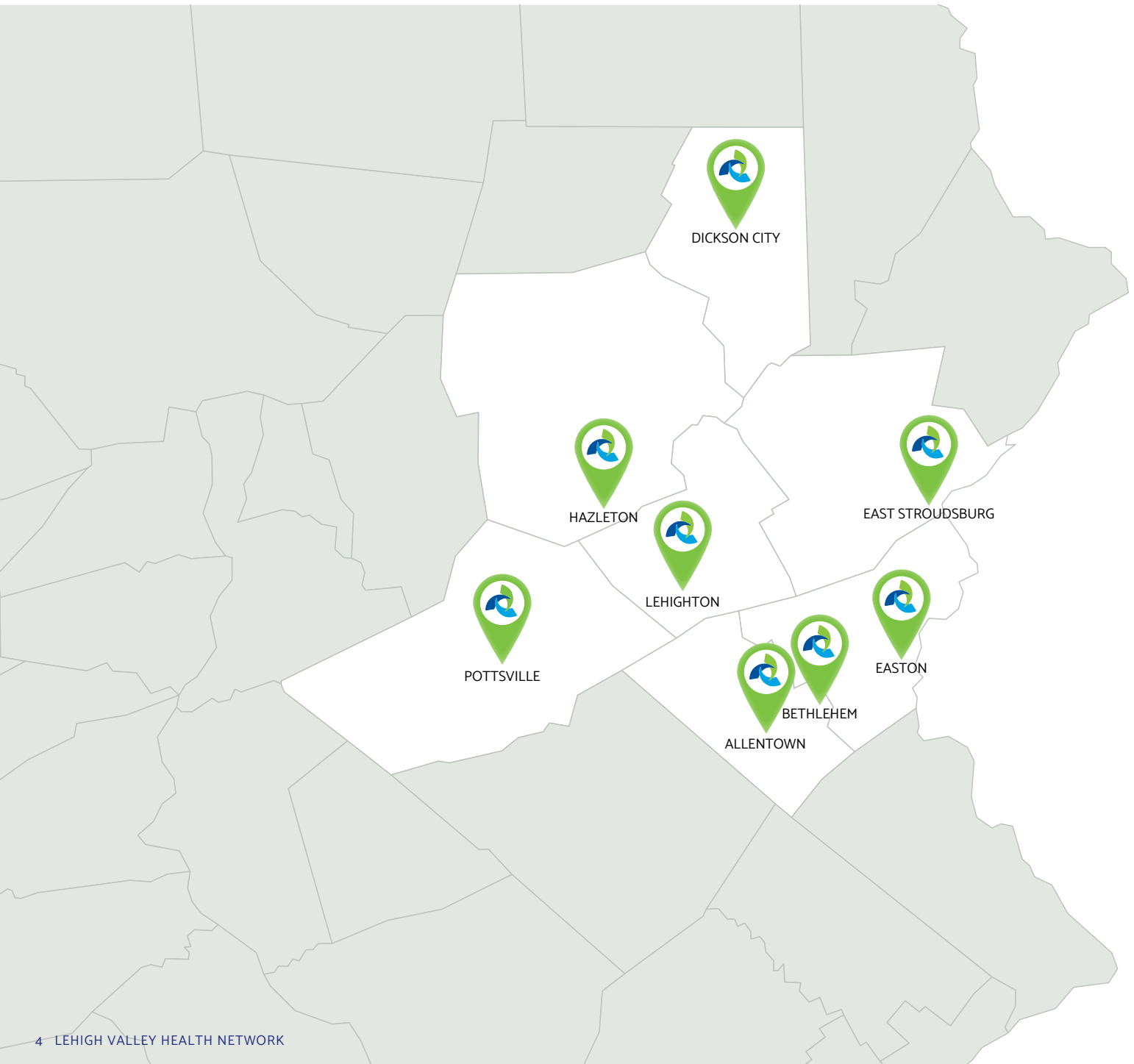
INPATIENT PHARMACIES - ONE AT EACH OF OUR 12 HOSPITAL AND SURGERY CENTER LOCATIONS

Allentown
LVH-Cedar Crest
LVH-17th Street
LVHN-Tilghman
LVH-503 N. Cedar Crest
LVH-2310 Highland Ave.

Bethlehem
LVH-Muhlenberg
East Stroudsburg
LVH-Pocono

Hazleton
LVH-Hazleton
Pottsville
LVH-Schuylkill
E. Norwegian St.

Lehighton
LVH-Carbon
Easton
LVH-Hecktown Oaks
Dickson City
LVH-Dickson City



LVHN HOSPITAL LOCATIONS

LVH-CEDAR CREST

Beds: 837

- Level I Trauma Center
- Comprehensive Stroke Center
- Children's ER
- Family Birth and Newborn Center
- Level IV NICU
- Regional Burn Center
- John and Dorothy Morgan Cancer Center
- Inpatient Rehab
- Minimally invasive robotic surgery

LVH-17TH STREET

Beds: 12

- Community clinics
- Breast Health Services
- Sleep Disorders Center

LVHN-TILGHMAN

Beds: 24

- Center for Orthopedic Medicine
- ExpressCARE
- LVHN Surgery Center-Tilghman

LVH-503 N. CEDAR CREST

Beds: 20

- Orthopedic Surgical Center
- Spine Surgical Center
- TEE center
- Advanced Rehab Center
- Pain injections

LVH-2310 HIGHLAND AVE.

Beds: 20

- Orthopedic Surgical Center
- GYN surgery
- Ophthalmology surgery
- Endoscopy
- Pain injections

LVH-MUHLENBERG

Beds: 319

- Behavioral Health Services
- Primary Stroke Center
- Level II Trauma Center
- Family Birth and Newborn Center
- Level II NICU
- Cancer Center at LVH-Muhlenberg
- Inpatient Rehab
- Newly expanded ICU

LVH-POCONO

LVH-Pocono serves communities in Monroe County and the Pocono Mountain region.

Beds: 264 (DOH License)

- Level III Trauma Center
- ESSA Heart and Vascular Center
- Level III NICU
- Dale and Frances Hughes Cancer Center
- Family Birth and Newborn Center
- Inpatient Rehab
- Behavioral Health Services
- TJC Certified Primary Stroke Center
- Minimally invasive robotic surgery

LVH-HAZLETON

LVH-Hazleton serves communities in the Greater Hazleton area.

Beds: 150

- Level IV Trauma Center
- Gunderson Rehabilitation Center
- Primary Stroke Center
- Family Birth and Newborn Center
- Cancer Center at LVH-Hazleton
- Chest Pain Center

LVH-SCHUYLKILL

LVH-Schuylkill serves Pottsville and surrounding communities in Schuylkill County.

Beds: 186

- Stine Acute Rehabilitation
- Advanced Wound Center
- Behavioral Health Services (senior, adult, adolescent)
- Family Birth and Newborn Center
- LVHN Cancer Center-Schuylkill
- Primary Stroke Center
- Chest Pain Center
- Cardiac Rehabilitation
- Joseph F. McCloskey School of Nursing

LVH-CARBON

Beds: 20

LVH-Carbon serves communities in Carbon County.

- Emergency Room
- Health Center
- Cancer Center at LVH-Carbon
- Inpatient unit

LVH-HECKTOWN OAKS

Located in Northampton County

Beds: 32.

- Emergency Room
- Inpatient unit
- ICU
- Cancer Center at LVH-Hecktown Oaks
- Health Center

LVH-DICKSON CITY

Located in the heart of Lackawanna County

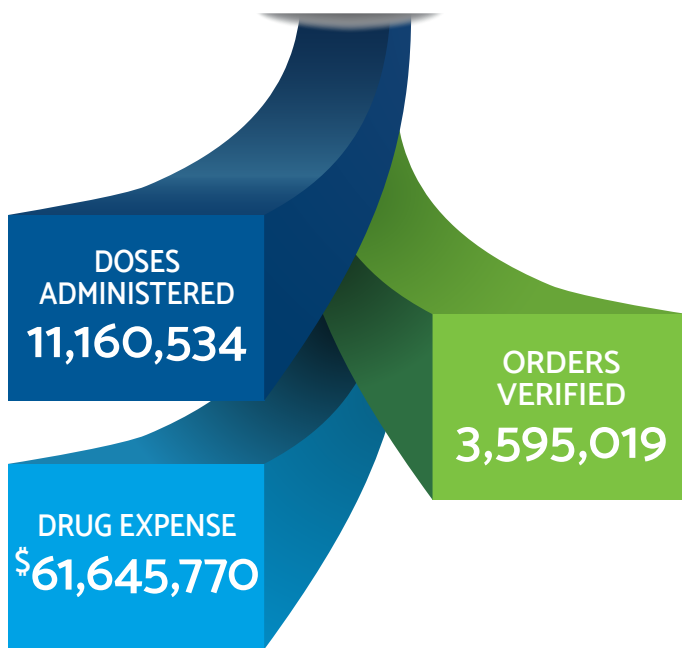
Beds: 40

- Advanced imaging
- Emergency Room
- ICU
- Orthopedic Institute

FISCAL YEAR 2023 STATISTICS

INPATIENT PHARMACY DEPARTMENT VOLUME METRICS

- LVH-Cedar Crest
- LVH-Muhlenberg
- LVH-17th Street
- LVHN-Tilghman
- LVH-Hazleton
- LVH-Schuylkill
- LVH-Pocono
- LVH-Carbon
- LVH-Dickson City
- LVH-Hecktown Oaks



LEHIGH VALLEY PHARMACY SERVICES LOCATIONS FISCAL YEAR 2023

- Lehigh Valley Pharmacy Services-Cedar Crest
1202 S. Cedar Crest Blvd., Allentown
- Lehigh Valley Pharmacy Services-17th Street
1637 Chew St., Allentown
- Lehigh Valley Pharmacy Services-Muhlenberg
2545 Schoenersville Road, Bethlehem
- Lehigh Valley Pharmacy Services-Pocono
206 E. Brown St., East Stroudsburg
- Lehigh Valley Pharmacy Services-Infusion
2024 Lehigh St., Suite 500, Allentown
- Lehigh Valley Pharmacy Services-Specialty Division
2024 Lehigh St., Suite 600, Allentown
- Lehigh Valley Pharmacy Services, LVH-Schuylkill
E. Norwegian St., Pottsville
- Lehigh Valley Pharmacy Services, LVH-Carbon
2128 Blakeslee Blvd. Drive E., Lehighton
- Lehigh Valley Pharmacy Services, LVH-Dickson City
330 Main St., Dickson City
- Lehigh Valley Pharmacy Services, LVH-Hecktown Oaks
3780 Hecktown Road, Easton



FISCAL YEAR 2023 RETAIL AND SPECIALTY STATISTICS

RETAIL PHARMACY DIVISION

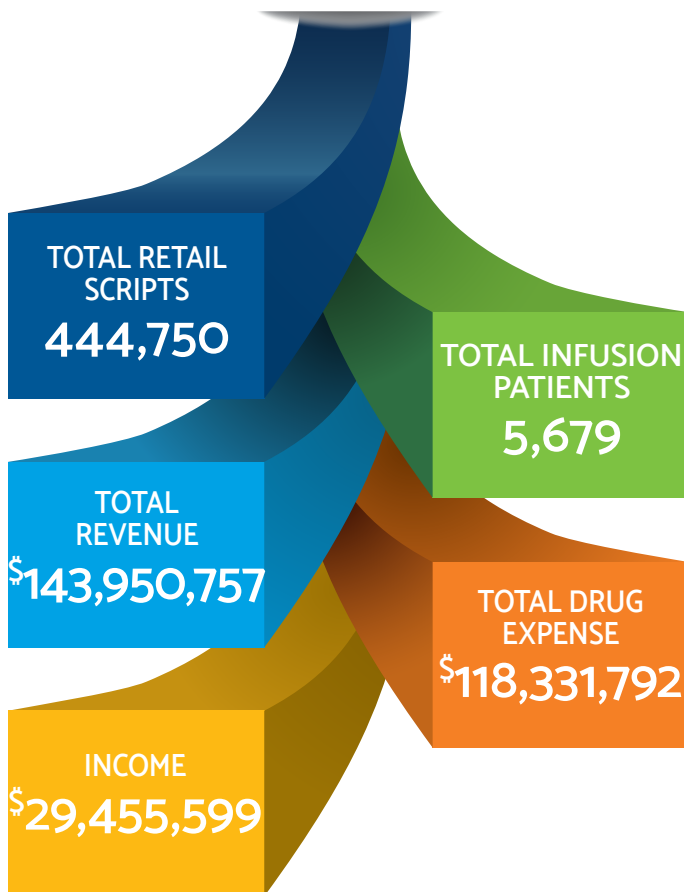
Lehigh Valley Pharmacy Services are located at LVH-Cedar Crest, LVH-17th Street, LVH-Muhlenberg, LVH-Pocono and LVH-Schuylkill. These full-service pharmacy locations fill and dispense LVHN employee prescriptions as well as dispense medication to patients being discharged from our hospitals, our clinic patients and other members of our community. Services offered at these locations include bedside prescription delivery, compliance packaging, free convenience shipping and adult immunization administration. In addition to our full-service locations, in FY22 we opened new convenient pickup locations at LVH-Hecktown Oaks, LVH-Dickson City and LVH-Carbon to better serve our employees and patients being discharged from those facilities.

SPECIALTY PHARMACY DIVISION

Our specialty pharmacy team works closely with LVHN specialists to obtain high-cost, high-touch medications for patients. Services offered by our specialty team include but are not limited to: prior authorization, appeal and financial assistance support, monthly patient compliance phone calls, on-site self-injectable teaching and compliance packaging. Our care team utilizes a care management system called TherigySTM to track patients' clinical outcomes. In FY23, we added **4** pharmacists, **1** graduate pharmacist, and **2** pharmacy coordinators to the specialty division.

HOME INFUSION DIVISION

Lehigh Valley Pharmacy Services home infusion division services patients in **13** counties in Pennsylvania and two counties in New Jersey. Therapies provided include but are not limited to: TPN, anti-infectives, chemotherapy, immunoglobulin, hemophilia factors, pain management and corticosteroids. Our team consists of pharmacists, nurses, financial coordinators, pharmacy technicians and delivery technicians, all with the goal of delivering high-quality, cost-effective services to patients in the comfort of their homes. Partnering with Lehigh Valley Home Care and other agencies, Lehigh Valley Pharmacy Services home infusion division provides the most up-to-date services and infusion devices to allow patients the freedom to continue their recovery and take charge of their care in the comfort of their homes. In December 2019, the 2024 Lehigh Street infusion suite was utilized for patient treatment for the first time. Throughout FY23, **200** infusions were administered in the on-site suite.





MEDICAL SUPPLIES DIVISION

Our medical supplies division assists patients with items such as Jobst® vascular garments, diabetic supplies, post-mastectomy products, and wound, ostomy and breastfeeding supplies. As a Board of Certification/Accreditation (BOC)-accredited facility, our division's certified fitters ensure patients' orthotic products fit properly.

BILLING AND ACCOUNTS RECEIVABLE

The billing department of Lehigh Valley Pharmacy Services consists of five dedicated employees who have taken ownership of billing and collection responsibilities. The past fiscal year has been the strongest to date. Using cash collections as a barometer for success, the billing department has not disappointed. This year the billing department collected **\$220,785,719** in receivables. Another nationally accepted standard for measurement is average days sale outstanding (DSO). In this category, the department falls below the national average for this business type. Home infusion DSO is currently at **51.2**, with industry average at 68. Retail, which includes home medical equipment (HME), is **23.0**. There is no published industry average for this type of hybrid combination of retail and HME, but compared to what we know about HME, it also falls below industry average.

CANCER/AMBULATORY INFUSION CENTERS

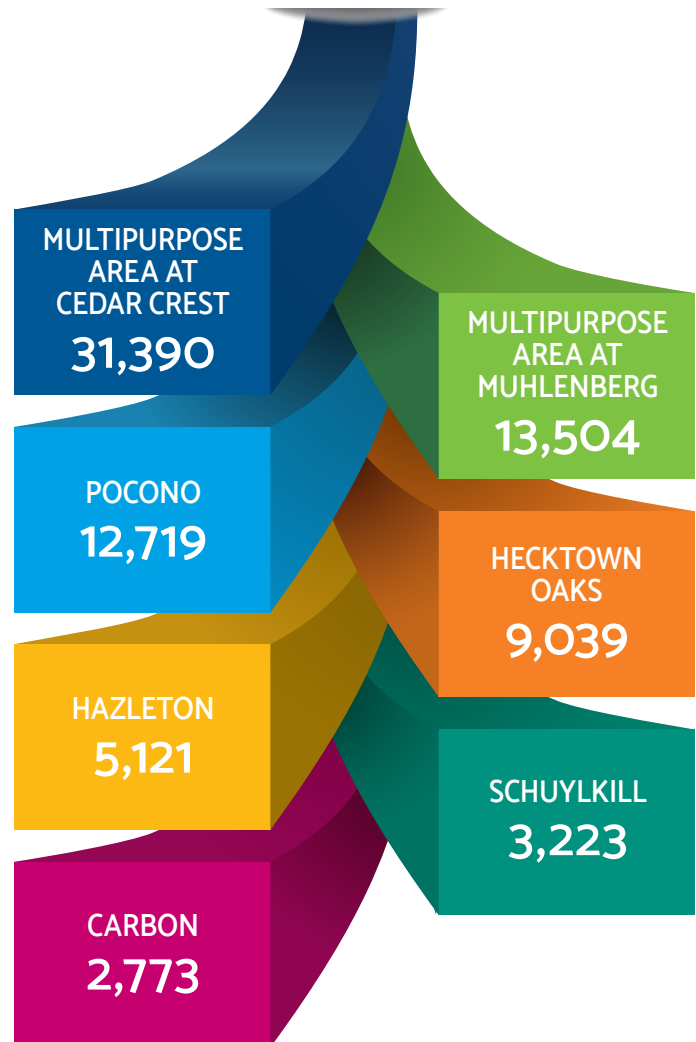
This has been a challenging year for oncology as we have witnessed unprecedented drug shortages of several medications that are lifesaving to our patients. The Cancer Institute partnered with senior leadership in developing a huddle where supply was closely monitored and reported daily. The teamwork throughout the network allowed pharmacy to procure these shortage medications to treat our patients. A report was created to track all doses on hand as well as all doses needed to treat patients. Pharmacy has been able to share these medications among all 7 infusion centers; therefore all patients can continue their treatment without delay.

All seven infusion areas in the Cancer Institute have seen growth over the past year with Carbon and Hecktown Oaks Infusion Centers having the most growth. In the coming year, LVHN will begin its Stem Cell Transplant and Cellular Therapy Program at the Cedar Crest site, which will give patients the opportunity to stay close to home when they undergo a stem cell transplant.

The Oncology Therapeutics Committee continues to meet with all seven cancer centers represented, plus three physician leaders. The committee continues to address drug shortages, white bagging, site of care and new therapies to treat patients in both the inpatient and outpatient settings. By having a multidisciplinary committee, all regimens and procedures are standardized across all sites for patient safety.

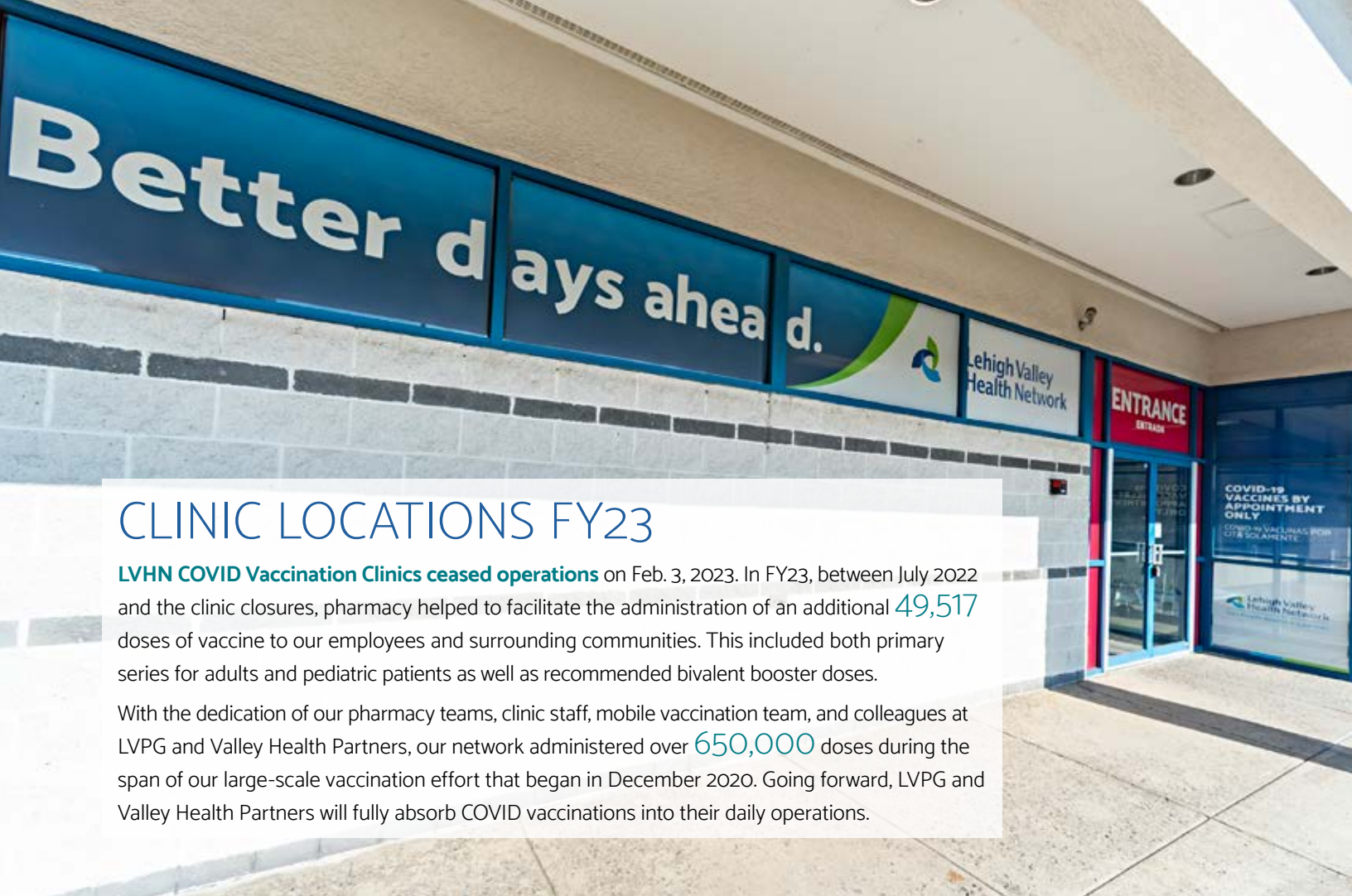
Our clinical trial program continues to grow and accrue patients to our Muhlenberg and Cedar Crest sites. In the coming year, clinical trials are expected to expand to other sites. In FY23, 212 patients were enrolled in both treatment and tissue trials from pharmaceutical companies, the National Cancer Institute, and our alliance with Memorial Sloan Kettering.

FY23 INFUSION VISITS BY SITE



INFUSION SERVICES LOCATIONS

- John and Dorothy Morgan Cancer Center at Lehigh Valley Hospital–Cedar Crest
- Cancer Center at Lehigh Valley Hospital–Muhlenberg
- Cancer Center at Lehigh Valley Hospital–Hecktown Oaks
- Cancer Center at Lehigh Valley Hospital–Carbon
- Dale and Francis Hughes Cancer Center at Lehigh Valley Hospital–Pocono
- Cancer Center at Lehigh Valley Hospital–Hazleton
- Cancer Center at Lehigh Valley Hospital–Schuylkill



CLINIC LOCATIONS FY23

LVHN COVID Vaccination Clinics ceased operations on Feb. 3, 2023. In FY23, between July 2022 and the clinic closures, pharmacy helped to facilitate the administration of an additional **49,517** doses of vaccine to our employees and surrounding communities. This included both primary series for adults and pediatric patients as well as recommended bivalent booster doses.

With the dedication of our pharmacy teams, clinic staff, mobile vaccination team, and colleagues at LVPG and Valley Health Partners, our network administered over **650,000** doses during the span of our large-scale vaccination effort that began in December 2020. Going forward, LVPG and Valley Health Partners will fully absorb COVID vaccinations into their daily operations.

LVHN 340B PROGRAM

The 340B program allows LVHN to purchase outpatient drugs at a reduced cost, which leads to significant savings after reimbursement by third party payers. The savings help reach more patients and provide more comprehensive services throughout our hospital network.

Overall 340B savings for fiscal year 2023 were **\$101,856,342.84**. The savings that came from our four main covered entities and their corresponding child sites was as follows: Lehigh Valley Hospital **\$77,726,094.48**, LVH-Pocono **\$9,749,668.70**, LVH-Schuylkill **\$3,894,517.84** and LVH-Hazleton **\$4,857,785.49**. Savings from our two grantee locations were as follows: Hemophilia Treatment Center **\$2,426,433.33** and Comprehensive Health Services **\$3,201,843.00**.

Two other areas contributing to our savings were through our Contract Pharmacy arrangements with outside retail and specialty pharmacies and our conversion in January 2023 from a Rural Referral Center (RRC) to a Disproportionate Share Hospital (DSH). Our Contract Pharmacy relationships brought in **\$5.7** million in 340B savings. The switch from RRC to DSH allowed us to take advantage of purchasing orphan drugs, resulting in an estimated savings of **\$9** million for the last six months of the fiscal year.

Due to the complexity of the 340B program and the potential of an audit, we have three full-time analysts who review 100% of outside 340B eligible claims from contract pharmacies and our internal specialty pharmacy. They also audit a sample of internal claims from our retail and mixed-use areas to ensure continued compliance with the program. Additionally, in FY23 we looked at claims that did not qualify for 340B and reviewed for potential eligibility. Using both an internal and external resource we were able to realize **\$1.6** million in savings.

EDUCATION

RESIDENCY PROGRAM

The LVHN program has been accredited by the American Society of Health-System Pharmacists (ASHP) since 2007 and was most recently granted an eight-year accreditation following a survey conducted Oct. 6, 2021. Our program prepares pharmacists for clinical or teaching positions, or for PGY2 training in a community hospital setting. The program currently has 20 preceptors who offer a broad range of learning experiences.

WE WOULD LIKE TO CONGRATULATE THE ACHIEVEMENTS OF OUR 2023 GRADUATES:

Michelle Gronski, PharmD – PGY2 Pediatric Residency at Cone Health, Greensboro, North Carolina

Brianna Schafer, PharmD – PGY2 Pediatric Residency at SUNY Upstate Medical University, Syracuse, New York

Kimberly Sharpe, PharmD – Unit Based Clinical Pharmacist at the Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania

Peter Yakoub, PharmD – Clinical Staff Pharmacist at Lehigh Valley Health Network, Allentown, Pennsylvania

PHARMACY STUDENTS

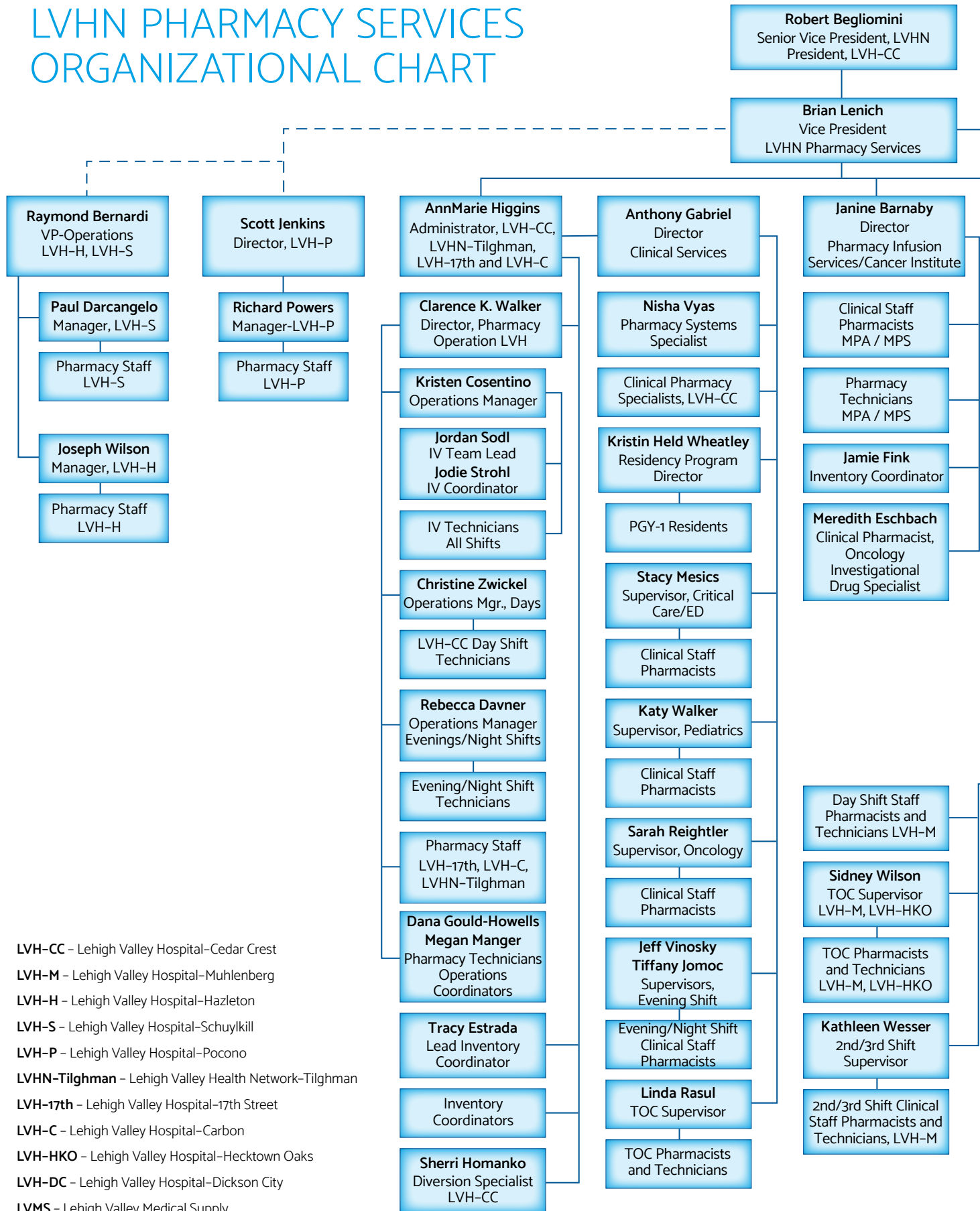
LVHN has student affiliation agreements in place with five schools of pharmacy: Duquesne University School

of Pharmacy, Thomas Jefferson College of Pharmacy, University of Rhode Island College of Pharmacy, University of the Sciences' Philadelphia College of Pharmacy, and Wilkes University's Nesbitt School of Pharmacy. In the last academic year, **14** clinical specialists and administrators precepted **30** student APPE rotations and **10** student IPPE rotations at **5** inpatient hospital sites. Rotations precepted included cardiology, critical care, emergency medicine, hospital/institutional, infectious diseases, internal medicine, oncology, pediatrics, and organ transplant. Additionally, **19** pharmacy student interns were employed in the inpatient pharmacy departments in FY22. One of the **4** interns who graduated from pharmacy school entered into a pharmacy residency program.

- Lehigh Valley Pharmacy Services employed **6** student interns during FY23.
- Lehigh Valley Hospital Pharmacy Department sponsored **12** ACPE activities accounting for **170** certificates of completion and **20.2** CEU or 202 continuing education credit hours for pharmacy staff.
- Lehigh Valley Hospital Pharmacy Department sponsored **16** ACPE activities in cooperation with the Department of Education accounting for **9** certificates of completion and **1.325** CEU or 13.25 continuing education credit hours for pharmacy staff.



LVHN PHARMACY SERVICES ORGANIZATIONAL CHART



- LVH-CC – Lehigh Valley Hospital-Cedar Crest
- LVH-M – Lehigh Valley Hospital-Muhlenberg
- LVH-H – Lehigh Valley Hospital-Hazleton
- LVH-S – Lehigh Valley Hospital-Schuylkill
- LVH-P – Lehigh Valley Hospital-Pocono
- LVHN-Tilghman – Lehigh Valley Health Network-Tilghman
- LVH-17th – Lehigh Valley Hospital-17th Street
- LVH-C – Lehigh Valley Hospital-Carbon
- LVH-HKO – Lehigh Valley Hospital-Hecktown Oaks
- LVH-DC – Lehigh Valley Hospital-Dickson City
- LVMS – Lehigh Valley Medical Supply

Jane Nixon
Administrative Secretary

Rhonda Thomas
Administrator
LVH-M, LVH-HKO, LVH-DC,
LVH-CC North

- Babatunde Ogun**
Supervisor, LVH-HKO
- LVH-HKO Clinical Staff Pharmacists and Technicians
- Tara Rogers**
Inventory Coordinator
LVH-HKO
- Nicole Walsh**
Supervisor, LVH-DC
- Pharmacy Staff
LVH-DC
- Chris Simkulak**
Supervisor,
LVH-CC North
- Pharmacy Staff
LVH-CC North
- Emily Steadman**
Manager, LVH-M
- Rebecca Pounds**
Laura Curatola
Lead IV Techs, LVH-M
- Christine Krotzer**
Inventory Coordinator
LVH-M
- Inventory Coordinators
- Clinical Pharmacy Specialists, LVH-M

- Sean Maydick**
Manager
Specialty Pharmacy
- Specialty Pharmacists and Coordinators
- Ryan Sutliff**
Senior Pharmacy Systems Analyst
- Ian Anderson**
Pharmacy Analyst
- Gallus Wukitsch**
Retail Director
LVH-CC/LVH-17th/
LVH-M
- Retail Pharmacists and Technicians LVH-M
- David Newton**
Retail Manager LVH-CC
- Retail Pharmacists
LVH-CC
- Robert Gartside**
Retail Supervisor
LVH-CC
- Retail Technicians and Interns LVH-CC
- Lauren Hunsicker**
Retail Manager,
LVH-17th
- Retail Pharmacists and Technicians
LVH-17th
- Wilma Benner**
Inventory Coordinator
LVH-17th

Lauren Grantz
Administrator
Outpatient Pharmacy Services

- David Freeman**
Director
Home Infusion
- Infusion Pharmacists
- Nurse Clinicians
- Pharmacy Technicians
- Patient Services Coordinators
- Logistics Technicians
- Jim Dinbokowitz**
Inventory Coordinator
- Pauline Coombe**
Purchase Coordinator
LVH-CC
- Shawn Hawkins,**
Manager, Medical Supply, LVH-CC
- Medical Supply Staff

- Robert Tocci**
Director
Business Operations
- Paul Mattern**
Manager 340B Program
- Support Technicians
340B Program
- Kaitlyn Sutliff**
Project Manager
- LVPS Financial Coordinators
- Robert Baker**
Manager, LVMS
- LVMS Staff
- Mary Sue Fisher**
Manager, Accounts Receivable
- Accounts Receivable Staff

CLINICAL SERVICES

In FY23 the clinical team continued its evaluation of medication utilization trends throughout the network to ensure optimal outcomes while supporting organizational vitality. Medication-related expense reduction efforts supporting the financial health of the network spearheaded by Clinical Pharmacy Services provided additional cost savings in excess of \$500,000.

Clinical Pharmacy Services participated in a new initiative during FY23, the Successful Post ICU Recovery Interprofessional Team (SPIRIT). This multidisciplinary clinic incorporated two pharmacists who met with patients to perform comprehensive medication reviews to assess medication appropriateness, provide patient education, encourage immunizations as well as review and update medication lists. A total of 50 patients were seen by the pharmacists with a comprehensive cost avoidance that approached \$56,000.

A new face joined the clinical pharmacy team at the end of the fiscal year. Brooke Broczkowski, PharmD, joined LVHN as the network's second dedicated infectious diseases clinical pharmacy specialist. Brooke joins Jarrod Kile, RPh, BCPS, BCIDP, to round out the pharmacy team that oversees antimicrobial stewardship throughout the network. We look forward to their contributions in expanding this program within LVHN.

MEDICATION SAFETY

LVHN has a dedicated medication safety officer who assists all health care professionals in the safe, efficient delivery of health care and a medication safety specialist who develops and maintains the safety systems in the network's infusion pump fleet. We work with nursing, health care informatics, providers and ancillary health care professionals to keep the chance of hurting a patient due to medication error to about three in a million.

PUMP SAFETY

In FY23 we completed deployment of 4,000 ICU Medical Plum 360 large-volume infusion pumps in addition to integrating the pumps with our EMR to allow for auto-programming in all our facilities. Starting with the first deployment of the interface at LVH-Pocono in April 2022, the bidirectional interface reads the order from Epic, "auto-populates" the pump and then transmits the infusion data from the pump back to the EMR. In conjunction with our nurses, these pumps create the safest infusion system possible in health care today.

IMPROVEMENTS THAT CONTRIBUTE TO THIS SAFETY LAYER INCLUDE:

- Sustainable results in bar code medication administration and medication reconciliation that result in top scores from Leapfrog
- Teamwork with our pediatric colleagues to start up the new Pediatric Medication Safety Team, to ensure our programs keep our youngest patients safe.
- Surveillance of controlled substance administration to strive for a system that prevents diversion and maintains the highest standard of medication availability. The network grows the resources in FY 24 with the addition of the first diversion prevention specialist.
- Promotes network research as the chairman of the American Association of Human Subjects Protection Program Accredited (AAHRPP) Institutional Review Board. LVHN is one of only 39 hospitals in the country that have had this certification for 10+ years.



INPATIENT TECHNOLOGY

In fiscal year 2023, we continued to implement vital technology in our pharmacies. We completed the rollout of Omnicell machines across the network with Schuylkill implementing in May 2023. Looking ahead, the teams will continue to work with Omnicell to optimize our machines and workflows to allow for the safest, most efficient and cost-effective dispensing of medications.

Controlled substance management and drug diversion prevention are priorities for our department. This past year we implemented new diversion software known as Control Check by Bluesight. This software integrates with Epic and Omnicell to audit controlled substance administrations and can detect possible diversions. It is a valuable tool that allows us to review variances and complete audits.

Technology planning and implementation will remain at the forefront of our vision for the next several years as we look to implement new carousels, new IV robotics and replace existing dispensing robots in some of our pharmacies.

LVPS TECHNOLOGY

Lehigh Valley Pharmacy Services continues to use technology to leverage time and resources. To date, our interactive voice response (IVR) system has answered over **2 million** phone calls, submitted **695,472** refills and recorded **145,205** voicemails, freeing time for colleagues to better serve the needs of patients.

Additionally, we utilize automation solutions from several different companies to assist in filling vials, counting pills, creating individualized medication packets and monitoring the overall workflow of our pharmacies.

As our network continues to grow, so will utilization of these systems to help us remain lean, efficient and focused on services we provide to our patients and community.





TOC Pharmacy Supervisor for LVH-Muhlenberg and LVH-Hecktown Oaks
Sidney Wilson won the Friends of Nursing Award because of her dedication to her unit and the support she provides to her fellow nurses.

TRANSITION OF CARE (TOC) PROGRAM

The Transition of Care pharmacy team continues to provide medication education, nursing/provider education and help with adherence by making sure patients are receiving their medications prior to discharge. In fiscal year 2023, the TOC pharmacists have completed medication counseling for 2,174 patients and have approached 3,524 patients. This showed that they can make a large difference in 90-day readmission rates by decreasing readmissions by almost 13%. The TOC program now expands across the Cedar Crest, Muhlenberg and Hecktown locations with eight pharmacists and three pharmacy technicians.

In this fiscal year, the TOC team assisted with the startup of the new congestive heart failure unit at Muhlenberg. The TOC team assures patients are on goal-directed medical therapy that is affordable to the patient and their family by providing price quotes, patient assistance programs and helping them retrieve manufacturer coupon cards.

The TOC team provided 1,863 follow up calls post-discharge. The TOC technicians assisted patients with medication refills, cost of medications, connecting the patient with a nurse navigator to schedule appointments, etc.

In FY24, the TOC team is looking to expand to the inpatient rehab facilities and continue to expand within the current hospitals to provide coverage on other units, including LVH-Dickson City.



INTEGRATED CARE COORDINATION – POPULATION HEALTH

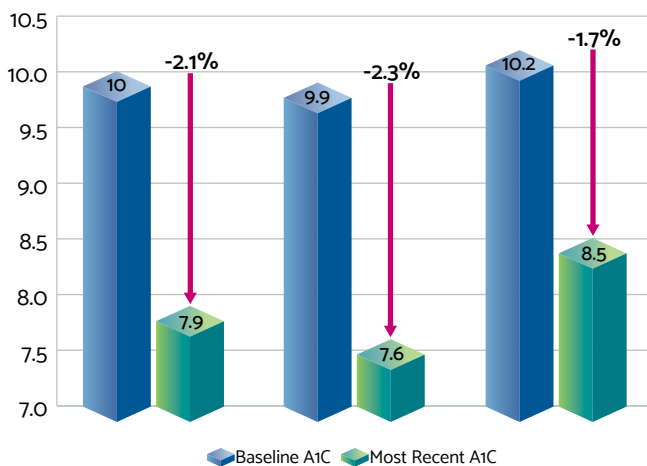
The Integrated Care Coordination (ICC) clinical pharmacy team continues to provide comprehensive medication management for high-risk patients with frequent hospitalizations or chronic conditions. In fiscal year 2023, the ICC clinical pharmacists received **1,864** referrals from clinicians, team members and registries; and worked with a total of **1,233** patients. A total of **4,191** patient outreach encounters and video visits were conducted generating **6,819** interventions for medication management. These interventions were associated with an estimated cost-avoidance of approximately **\$3 million**.

ICC clinical pharmacist team itself continues to expand with a HF-focused clinical pharmacist as well as additional clinical pharmacists to support LVPG practices that expand to the northern tier of LVHN. The team has also extended its contribution to enhanced experiential learning beyond the longitudinal rotation for PGY-1 residents. Beginning this year, a core APPE rotation in Ambulatory Care to pharmacy students from colleges of pharmacy at Wilkes University and University of Rhode Island and an Elective Patient Care rotation in Population Health for students attending Philadelphia College of Pharmacy and Jefferson College of Pharmacy are offered by this team, led by Kate Sheridan, PharmD, BCPS.

The ICC clinical pharmacists continue to participate in collaborative practice agreements (CPA) for adult patients with uncontrolled type 2 diabetes in 9 LVPG Family Medicine practices. During FY23, **218** total referrals for DM CPA were sent to the clinical pharmacists with a 76% enrollment rate. The ICC clinical pharmacists successfully demonstrated an average A1C reduction of 2.3% in managed patients and 2.1% in the total population. For patients who met with an ICC clinical pharmacist at least one time, GLP-1 receptor agonist utilization increased from 17% to 57% of the patient population. Additionally, the ICC clinical pharmacists incorporated proactive outreach to patients involved in value-based contracts to provide medication management opportunities to patients with uncontrolled type 2 diabetes and chronic kidney disease, heart failure with reduced ejection fraction, and pediatric asthma patients.

The ICC clinical pharmacists continue to provide in-person, video, and telephone visit appointments to patients. In FY24, in-person patient access to our clinical pharmacist team will be expanded with spaces in Quakertown, East Stroudsburg, Bangor, and Hazleton. We also look forward to expanding payer relationships as well as new and enhanced growth opportunities for collaborative agreements.

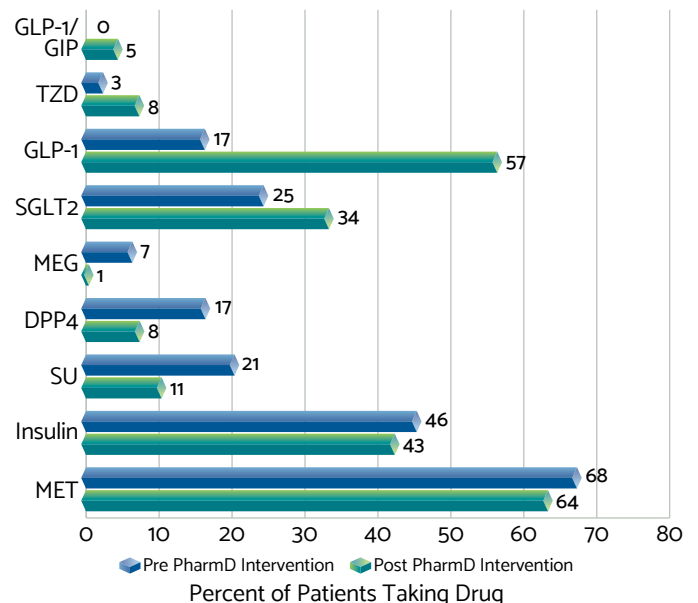
CHANGE IN A1C: BASELINE TO MOST RECENT



145 patients participated (met with PharmD at least once) in our program

- Intent-to-Treat (n=124) all patients with at least one repeat A1C
- Managed (n=74 excludes patients who were "lost to follow-up")
- Lost to Follow-Up (n=50) patient "lost to follow-up"

MEDICATION UTILIZATION



POPULATION HEALTH

For fiscal year 2023, the Populytics Care Coordination (PCC) pharmacy team continued focus on LVHN commercial payer contracts and the LVHN Employee Health Plan with a larger team and expanded programs. Across all programs, the team made 6,914 interventions for 2,577 patients resulting in an estimated cost avoidance of \$2.2M.

As the need for clinical pharmacist interventions continues to grow, so has our team. We hired two additional clinical pharmacists to our team of three, Dominique Gross, PharmD, and Bonny Brownstein, PharmD, BCPS, BCPPS. They have enabled us to provide deeper and broader services to our clients.

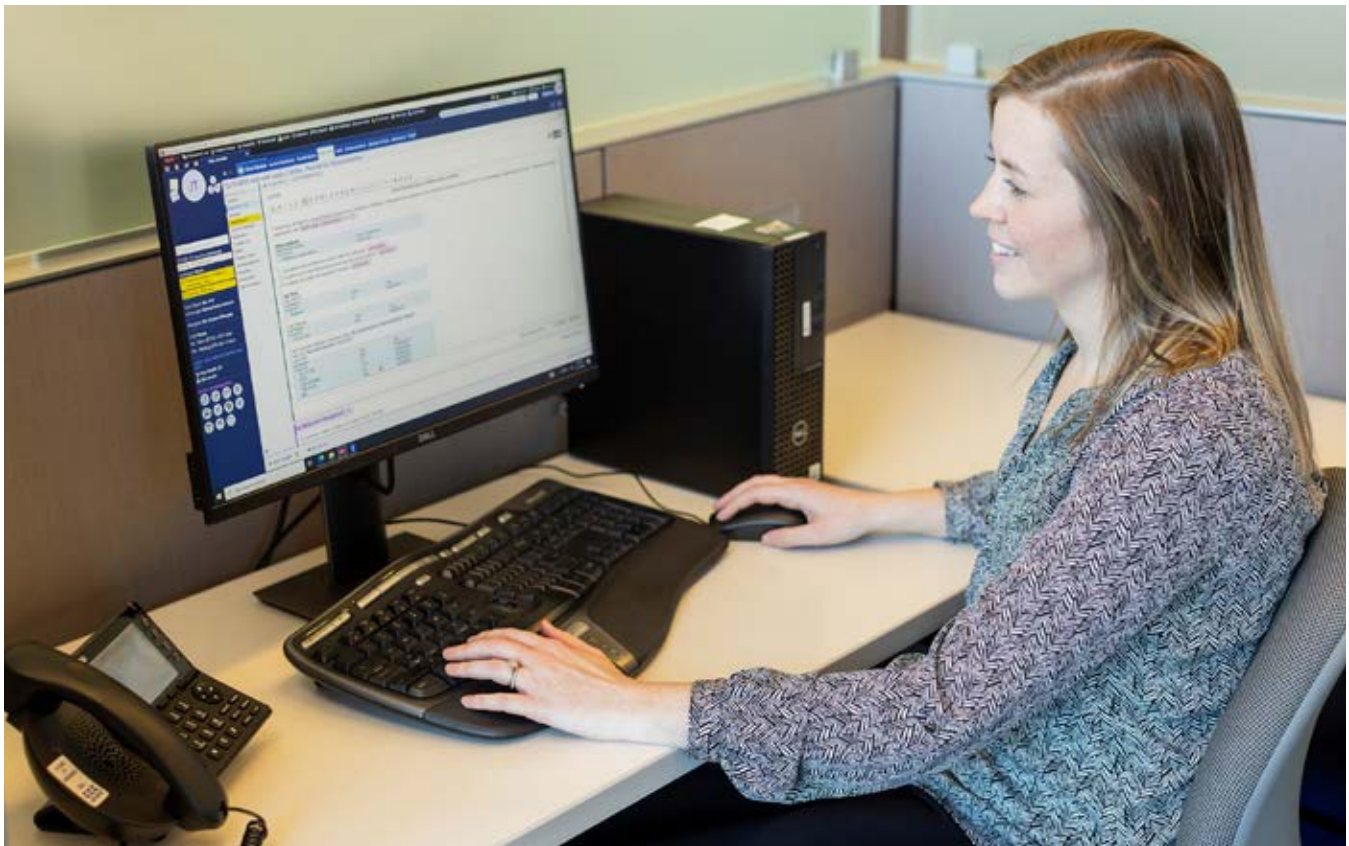
Our Virtual Pharmacy Review program (ViPRx), where clinical pharmacists perform medication-focused chart reviews prior to clinician visits, has improved with a focus on recommendations to primary care clinicians only. We have also added a ViPRx – Health Failure program. The High-Cost Low Value medication prescription reduction program continues to accumulate impressive gains.

Since inception in 2020, there has been savings of over \$11.7M for all payers measured.

On the research and education front, our pilot program to reduce prescribing of longer-term heartburn medications (proton pump inhibitors) produced some unexpected positive results. With the clinical pharmacist partnering with the prescribing clinician, 100% of clinicians accepted the pharmacist's recommendations and an impressive 67% of patients on unnecessary long-term stomach acid suppression therapy for heartburn were willing to taper and stop the medication.

PCC has also continued working with University of South Florida (USF) SELECT medical students. This year's team helped determine cost effectiveness of a newer class of migraine medication (CGRP inhibitors) for the LVHN Employee Health Plan population.

The next fiscal year will bring a renewed intensity of focus on LVHN Employee Health Plan savings innovations and marketing those innovations to other local and regional employers.



LVHN PHARMACY SERVICES VISION AND STRATEGY

Pharmacy Services supports LVHN's vision of providing access to superior health care for our entire community. We embrace this vision and use it to align our strategic priorities in the areas of integration, growth, coordination of care and innovation. To succeed, we are guided by the Quadruple Aim, a framework that helps us produce better health, better care, better cost, and a better colleague experience.

FISCAL YEAR 2024 TACTICS

COLLEAGUE ENGAGEMENT

- Review fiscal year 2023 survey results with colleagues
- Gather ideas to advance the colleague experience and execute action plans
- Focus on staffing, retention, onboarding and development

PATIENT EXPERIENCE

- Work with the NRC Health to improve every aspect of our health care experience
- Continue to implement project pilots and pharmacy strategies impactful to HCAHPS ratings
- Expand and streamline bedside prescription delivery, Transitions of Care (TOC) offerings, and curbside prescription delivery to appropriate hospital campuses
- Continue to embed the four core elements for what it takes to be Partners in Caring, creating a new kind of experience for our colleagues, clinicians, patients and guests.

GROWTH

- LVH-Muhlenberg Emergency Department and hospital expansion including 4 South
- Continue planning for Neighborhood Hospitals, Carbon ICU, Cancer Center Pharmacy Expansion, and Behavioral Health Hospital
- Expansion of 17th & Chew Pharmacy, pharmacy-based infusions at 2024, and providing retail pharmacy services at LVH-Hazleton

INTEGRATION AND TRANSFORMATION

- Continue to integrate policies and all hospital formularies into one health-system formulary
- Utilize AllSpire Pharmacy Clinical Collaborative meetings to continue sharing best practices

COST SAVINGS

- Continue to drive impactful value-based reductions in overutilization
- Explore 340B optimization and converting select LVPG practices to hospital-based status
- Utilize HealthTrust and the AllSpire Pharmacy Collaborative to drive savings
- Revise the Specialty Pharmacy medication delivery model to save cost while gaining operational efficiency

TECHNOLOGY AND INNOVATION

- Implement Epic's Dispense Prep IV room workflow technology and Omnicell automation at LVH-Cedar Crest and LVH-Muhlenberg
- Continue to implement Kit Check's automated medication tray and cart management system, roll out ICU medical pump interoperability, and roll out AeroScout at LVH-Pocono and LVH-Hazleton
- Work with technology to build tableau dashboard for outpatient pharmacy analytics along with Multi Step Order Transmittal (MSOT)

COMPLIANCE AND ACCREDITATION

- LVH-Cedar Crest and LVH-Pocono cleanroom upgrades to meet UPS 797/800 standards
- HRSA audit preparation for all hospital campuses and follow-through on any audit corrective action plans
- Begin the ACHC accreditation process for the Specialty Pharmacy Division
- Become FACT accredited for the stem cell transplant program
- Controlled substance and diversion optimization

PHARMACY SERVICES STAFF

LOCATION	POSITION	FTE
LVH-Hazleton	Pharmacists	10
	Pharmacy Techs	9.4
		19.4
LVH-Schuylkill	Pharmacists	11
	Pharmacy Techs	10.31
	Interns	0.04
	Additional Staff	1
		22.35
LVH-Pocono	Pharmacists	19.17
	Pharmacy Techs	14.14
	Interns	0.03
	Additional Staff	1
		34.34
LVH-Muhlenberg	Pharmacists	14
	Pharmacy Techs	16.33
	Interns	1.33
	Other	5.9
		37.56
MPA/MPS	Pharmacists	7.4
	Pharmacy Techs	5
		12.4
LVH-Cedar Crest	Pharmacists	52.02
	Pharmacy Techs	57.25
	Interns	3.19
	Residents	4
	Other	18.37
	Other (mgmt.)	5
		139.83
LVH-503 N. Cedar Crest	Pharmacists	1.5
	Pharmacy Tech	2
	Other	2
		5.5

LOCATION	POSITION	FTE
LVH-Dickson City	Pharmacists	6.9
	Pharmacy Techs	6.9
	Interns	0
	Other	2
		15.8
LVH-Hecktown Oaks	Pharmacists	7.75
	Pharmacy Techs	6.7
	Other	2.16
		16.61
LVPS Retail	Pharmacists	23
	Pharmacy Techs	27
	Interns	1.2
	Medical Supply Specialists	3.6
	Additional Staff	2
		56.8
LVPS Specialty	Pharmacists	7.01
	Pharmacy Techs	10
	Graduate Pharmacists	1
		18.01
LVPS Home Infusion	Pharmacists	5
	Pharmacy Techs	2.51
	Nurse Clinicians	2.02
	Delivery Techs	3.61
	Patient Services Coordinators	1
	Financial Coordinators	2
	Inventory Coordinator	1
		17.14
LVPS Billing	Accounts Receivable Specialists	1.01
	Financial Coordinators	6
	Additional Staff	2
		9.01
LVMS	Medical Supplies Specialists	2

PRESENTATIONS/PUBLICATIONS/POSTERS

PUBLICATIONS

Katelin Kimler

- Kimler K. Endocrine Emergencies. In: Lee BR, Ohler KH, eds. Pediatric Self-Assessment Program, 2023 Book 1. Emergency Medicine. Lenexa, KS: American College of Clinical Pharmacy, 2023:111-132.

Jason Laskosky

- DelBianco J, Deutsch A, Sharpe K, Laskosky J, Koons L, Beauchamp G, Katz K. Intravenous Acetaminophen May Reduce Opioid Use for Pain in the Emergency Department. Abstracts of the 2023 Pennsylvania College of Emergency Physicians Scientific Assembly. JACEPOpen 2023; pages 15-16.

Kristin Held-Wheatley

- Wheatley KH, Menig S. Alphabet soup of hazardous drug handling. Children's Oncology Group Pharmacy Newsletter. 2022;2(3):4-8.
- Wheatley KH. Pazopanib (Votrient®). Children's Oncology Group Pharmacy Newsletter. 2022;2(2):2-3.
- Wheatley KH, Lee CS. Setting boundaries after babies. HOPA News. 2022;19(2).

PRESENTATIONS

Matthew Fair

- Opioid Prescribing in the Hospital Setting – Presented to LVHN incoming medical residents
- Review of the 2023 GOLD Guidelines for the Management of COPD – CE presentation to Pharmacy Staff, June 2023
- Q&A presentation to Brain Warriors Stroke Survivor Support Group – November 2022

Jason Laskosky

- Management of ICU Delirium – Inservice to the trauma service
- Toxicokinetics & Toxicodynamics – Inservice to the medical toxicologists
- Management of Pain, Agitation, and Delirium in the Adult ICU – CE presentation to pharmacists
- Analgesic Prescribing in the Post-operative Setting – Inservice to the surgical residents

Kristin Held-Wheatley

- Leader...Who Me? Eastern States Residency Conference, Hershey, Pennsylvania, May 2023.
- Defining Pediatric Pharmacy Competency Healthcare for All, Vizient Pharmacy Network Meeting, Las Vegas, Nevada, December 2022.

- Debate on the Role of Nelarabine in T-Cell Lymphoblastic Leukemia vs. Lymphoma, The Betsy Poon Pharmacy Education Series, Children's Oncology Group Meeting, New Orleans, Louisiana. September 2022.
- Beta-Lactam Antibiotics. Presented to pediatric medical residents. PediaPred lecture series, August 2022.
- Antibiotics Part II. Presented to pediatric medical residents. PediaPred lecture series, August 2022.
- What's New (Old) With Vancomycin, Pediatric Grand Rounds, Lehigh Valley Health Network, Allentown, Pennsylvania, August 2022.

Jessica Price

- Psychiatric Pharmacy Pearls. Psychiatry Grand Rounds presentation; LVHN, July 26, 2023
- Antipsychotics and Metabolic Syndrome. Lecture for psychiatry residents, LVHN-MHC, March 15, 2023

Brianna Schafer

- Case Presentation: Initial Management of Human Immunodeficiency Virus (HIV) - presented to clinical pharmacists
- Case Presentation: Chronic Disease Management and Mental Health (Diabetes) - presented to clinical pharmacists
- Case Presentation: Management of Acute Pediatric Ulcerative Colitis - presented to clinical pharmacists
- Case Presentation: Anticoagulation Management - presented to anticoagulation clinic staff
- ACPE Preceptor Pearl: Preceptor Roles - presented to preceptors
- Vaccination amongst the transplant population - presented to transplant nurses
- Tylenol for Patent Ductus Arteriosus (PDA) - presented to NICU providers
- Antimicrobial therapy and duration of treatment following implementation of a pediatric appendicitis pathway - MEPSHP Night of the Residents
- Antimicrobial therapy and duration of treatment following implementation of a pediatric appendicitis pathway - Eastern States Residency Conference
- Status Epilepticus Management in Pediatric Patients (ACPE) – presented to clinical pharmacists
- Inpatient Hyperglycemia Management - presented to family medicine residents

Michelle Gronski

- Case presentation: Acute Disseminated Encephalomyelitis- presented to clinical pharmacists
- Case Presentation: SGLT2- I in Heart Failure- presented to clinical pharmacists
- Case Presentation: Diabetes and Albuminuria Patient Case Presentation- presented to clinical pharmacists
- Case Presentation: Fibrinolytic therapy in pediatric empyema- presented to PICU team
- Case Presentation: Factor V Leiden- presented to anticoagulation staff
- Medication Use Evaluation of Vancomycin and Clindamycin for Group B Streptococcus Prophylaxis in Labor and Delivery Patients- presented to pharmacist at Vizient and ASHP Midyear conference
- IV Tylenol for PDA – presented to NICU staff
- Inpatient Hyperglycemia Management- presented to family medicine residents
- Evaluation of Sputum and Tracheal cultures in Pediatric Patients within a Community Hospital- MEPSHP Night of the Residents
- Learning Styles Preceptor Pearl (ACPE)- presented to clinical pharmacists
- Evaluation of Sputum and Tracheal cultures in Pediatric Patients within a Community Hospital- Eastern States Residency Conference
- Evaluation of Sputum and Tracheal cultures in Pediatric Patients within a Community Hospital- presented to PICU Quality Improvement Team
- Sedation in Mechanically Ventilated Patients in the Pediatric Intensive Care Unit (ACPE)- presented to clinical pharmacists

Kimberly Sharpe

- Alteplase versus Tenecteplase for Acute Ischemic Stroke- presented to clinical pharmacists
- Patient Case: Aspirin for Primary Prevention- presented to clinical pharmacists
- Antibiotic Learning Lab- family medicine residents
- Patient Case: Aortic Dissection Management- presented to clinical pharmacists
- ACPE: Residency Resilience- presented to clinical pharmacists
- Events Related to the Drug Interaction Between Phenobarbital for Alcohol Withdrawal and DOACs- MEPSHP Night of the Residents
- Events Related to the Drug Interaction Between Phenobarbital for Alcohol Withdrawal and DOACs – Eastern States Conferences
- ACPE: Intravenous to Oral Transition of Antibiotics for Gram Negative Blood Stream Infections- presented to clinical pharmacists
- Patient Case: Gastroparesis Management- presented to clinical pharmacists

Peter Yakoub

- Management of VTE in Malignancy- presented to clinical pharmacists
- Case Presentation: Fomepizole's Place in Therapy for Acetaminophen Overdose- presented to clinical pharmacists
- Dementia in a Warfarin Patient- presented to Coumadin Clinic Staff
- Management of Community Acquired Infections- Presented to Family Medicine residents
- Setting Expectations ACPE Pearl- presented to clinical pharmacists
- Management of Ischemic and Hemorrhagic Stroke (ACPE)- presented to clinical pharmacists
- Appropriateness of Aztreonam in the ED- presented during Emergency Medicine Grand Rounds
- Successful Transitions from Propofol to Dexmedetomidine - Eastern States Residency Conference
- Successful Transitions from Propofol to Dexmedetomidine- MEPSHP Night of the Residents
- Clevidipine Addition to Formulary- presented to Neurocritical care staff

POSTERS

Katelin Kimler

- Frey S, Duka S, Greenawald L, Kimler K. Evaluation of the extrapulmonary benefits after initiation of Elexacaftor/tezacaftor/ivacaftor in pediatric patients. [Poster] North American Cystic Fibrosis Conference poster presentation; 2022 November. Presented by Frey S.

Kristin Held-Wheatley

- Kelly E, Villalobos-Fry T, Wheatley KH. Duration of empiric antibiotic therapy in young febrile infants. Research Scholar Closing Ceremony, Lehigh Valley Health Network, Virtual. July 2022.

Jessica Price

- Michael Chen MD, Ralph Primelo MD, Laurence Karper MD, Brian Chilcote LCSW, Kristen Kelly MSN, PMH-BC, Jessica Price PharmD, BCPS, Edward Norris MD. Poster presentation: Decreasing Episodes of Violence on an inpatient Psychiatric Unit. American Psychiatric Association 2023 Annual Meeting, San Francisco, May 20-24, 2023

Brianna Schafer

- Medication Use Evaluation of Enoxaparin within Maternal Health Units – Vizient and ASHP Poster Presentation

Michelle Gronski

- Medication Use Evaluation of Vancomycin and Clindamycin for Group B Streptococcus Prophylaxis in Labor and Delivery Patients – Vizient and ASHP Poster Presentation

Kimberly Sharpe

- Medication Use Evaluation of Antipsychotic Use in the Trauma Intensive Care Unit

Peter Yakoub

- Medication Use Evaluation of Aztreonam Utilization within Emergency Departments in Large Community Hospital Network – Vizient and ASHP Poster Presentation

JOURNAL CLUB

Brianna Schafer

- RACING
- DELIVER
- SGLT2 post kidney transplant
- Belatacept versus tacrolimus for CMV viral load and relapse post kidney transplant
- IRONMAN

Michelle Gronski

- Albuterol-Budesonide Combination Rescue Inhaler for Asthma- presented to clinical pharmacists
- Bempedoic Acid and Cardiovascular Outcomes in Statin-Intolerant Patients- presented to clinical pharmacists
- Dulaglutide in youth- presented to clinical pharmacists

Kimberly Sharpe

- Effect of Sublingual Dexmedetomidine vs Placebo on Acute Agitation Associated with Bipolar Disorder
- CLEAR
- EDIT-CMD

Peter Yakoub

- SURPASS-2
- Diuretic Comparison Project
- LODESTAR Trial

CLINICAL PEARLS

Jessica Price

- Achieving Glycemic Control with Subcutaneous Insulin. Clinical Pearl for pharmacist staff; LVHN-MHC, April 14, 2023

Brianna Schafer

- Pediatric Vancomycin Dosing
- Common Transplant Medications

Michelle Gronski

- Dalbavancin Use
- Hemin Use in Porphyria

Kimberly Sharpe

- Beta Blockers and Dialysis
- Phenobarbital and DOAC Drug Interaction

Peter Yakoub

- Drug Interaction between Valproic Acid and Carbapenems
- Heparin and Antiplatelet Use in Therapeutic Hypothermia

MISCELLANEOUS

Matthew Fair

- Pharmacy Hub Panelist for Penn State University Project ECHO webinars involving 4Ms of Age and Dementia-Friendly Care

Jarrod Kile

- USF Health: Medical Education as Instructor I



Your health deserves a partner.