

PHARMACY SERVICES ANNUAL REPORT 2024



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GREETINGS FROM THE VICE PRESIDENT

I am proud to present the Fiscal Year 2024 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 FY24. Our retail, infusion and specialty divisions continue to grow financially while providing high-quality patient care and customer service. In FY24, those divisions generated \$28 million in operating income. Additionally, our alignment with the LVHN Health Plan continues to offer significant savings to the network.

Looking to the future of pharmacy services and our health network, the merger between Lehigh Valley Health Network and Jefferson presents a unique opportunity to elevate patient care across both networks. From a pharmacy perspective, this merger will create streamlined medication management systems and expanded clinical pharmacy services. By combining resources and expertise, the integrated network can optimize drug procurement, improve inventory management and negotiate better pricing, reducing overall medication costs. Pharmacy teams will also benefit from standardized protocols and formulary alignment, which improve care transitions and minimize the risk for medication errors. This merger represents a chance to leverage combined strengths to set a new benchmark in pharmacy excellence, ultimately supporting improved outcomes and accessibility for patients across both health systems.

I am honored to be part of such an outstanding team and am looking forward to the 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-1503 N. Cedar Crest Bethlehem

LVH-Muhlenberg LVH-2310 Highland Ave.

East Stroudsburg LVH-Pocono Hazleton

LVH-Hazleton

Pottsville

LVH-Schuylkill E. Norwegian St.

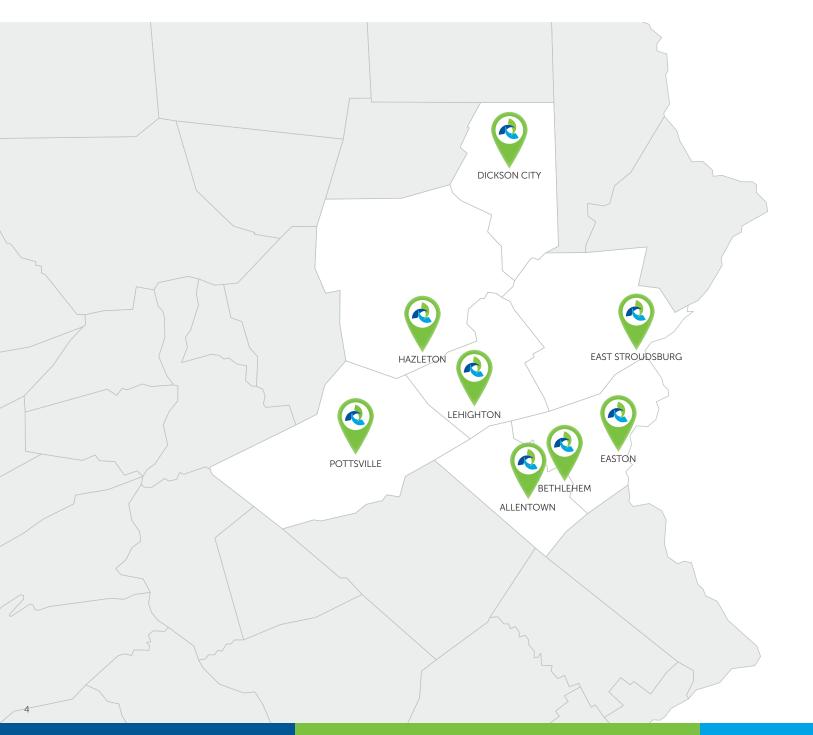
Lehighton

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
- * Emergency Room

LVHN-TILGHMAN

Beds: 24

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

LVH-1503 N. CEDAR CREST

Beds: 20

- Orthopedic Surgical Center
- Spine Surgical Center
- TEE center
- Advanced Rehab Center
- Pain injections
- Dedicated inpatient and outpatient surgical center
- MRI
- Outpatient rehabilitation

LVH-2310 HIGHLAND AVE.

Beds: 20

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

- Dedicated inpatient and outpatient surgical center
- Imaging Services
- Rheumatology

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

LVH-MACUNGIE

Beds: 10

- Emergency Department
- Inpatient Unit
- Imaging

LVH-POCONO

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

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

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: 32

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

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

LVH-GILBERTSVILLE

Beds: 10

- Emergency Department
- Inpatient Unit
- Imaging

LEHIGH VALLEY PHARMACY SERVICES LOCATIONS FISCAL YEAR 2024

- 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 2024 STATISTICS

INPATIENT PHARMACY DEPARTMENT VOLUME METRICS

• LVH-Cedar Crest

• LVH-Schuylkill

LVH-Muhlenberg

LVH-Pocono

• LVH-17th Street

• LVH-Carbon

• LVHN-Tilghman

• LVH-Dickson City

• LVH-Hazleton

• LVH-Hecktown Oaks

11,425,292	DOSES ADMINISTERED
3,815,839	ORDERS VERIFIED
\$328,576,852	DRUG EXPENSE



FISCAL YEAR 2024 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.

558,550	TOTAL RETAIL SCRIPTS
5,688	TOTAL INFUSION PATIENTS
\$151,380,532	TOTAL REVENUE
\$133,001,208	TOTAL DRUG EXPENSE
\$28,364,602	INCOME

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 FY24, we added 1 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 FY24, 227 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 \$268,601,492 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 48.99, with industry average at 68. Retail, which includes home medical equipment (HME), is 22.30. 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.

LVHN 340B PROGRAM

The 340B drug program allows LVHN to purchase outpatient drugs at a reduced cost leading to significant savings. The savings help the network provide more comprehensive services for patients of the community. An example of this is the pharmacyled Transitions of Care (TOC) program, which is enabled by the 340B drug program.

Overall, the 340B Disproportionate Share Hospital (DSH) savings for Fiscal Year 2024 were \$155,920,067. The savings that came from our four main Covered Entities and their corresponding Child Sites was as follows: Lehigh Valley Hospital \$129,865,052, LVH–Pocono \$14,200,208, LVH–Schuylkill \$5,153,996 and LVH–Hazleton \$6,700,809. Additionally, savings at our Hemophilia Treatment Center Grantee was reported at \$2,343,138.73 and Comprehensive Health Services Grantee savings are no longer reported.

Another area contributing to our 340B savings is through our contract pharmacy relationships with outside retail and specialty pharmacies. Even with the restrictions in place by several drug manufacturers, our contract pharmacy relationships generated \$4,877,248 in 340B savings.

In FY24 we continued to review claims that did not qualify for 340B for potential eligibility. Using both an internal and external resource we were able to realize an additional \$604,384 in savings at our Lehigh Valley Hospital DSH and \$416,621 in additional savings at our Comprehensive Health Services Grantee.

Due to the complexity of the 340B program and the potential of an audit, we have three full time analysts that 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. We also added a new team member in the second half of FY24 to focus on program optimization by looking at disqualified claims and reviewing suspect claims for 340B eligibility.

\$155,920,067	DSH FY24
\$129,865,052	LEHIGH VALLEY HOSPITAL
\$14,200,208	LVH-POCONO
\$5,153,996	LVH-SCHUYLKILL
\$6,700,809	LVH-HAZLETON
\$2,343,138	HEMOPHILIA TREATMENT CENTER GRANTEE

CANCER/AMBULATORY INFUSION CENTERS

Once again, drug shortages continued for oncology medications. However, as in the previous year, the infusion center pharmacies continued to monitor the amounts of medication in stock and shared with all seven sites to ensure patients continued their treatments. Teamwork was again displayed by everyone coming together and working through all the shortages.

August 2023 saw the opening of the Cancer Center at Hazleton, which includes physician offices, infusion services, and a new pharmacy. Patients have a wonderful new building to go to for their services. The infusion centers continue to have increased growth year after year. Part of the infusion center at Cedar Crest was under construction for several months to build new stem cell patient rooms. In May 2024, Cedar Crest had its first bone marrow transplant that occurred inpatient. After discharge from the hospital, the patient came daily to the Cedar Crest infusion center for supportive therapy. Next year, we hope to offer Chimeric antigen receptor (CAR) T-cell therapy for patients.

The Oncology Therapeutics Committee continues to meet during the year with all infusion centers representing their specific areas. Besides discussing new medications, we are focusing on policies and procedures for the infusion center. The multidisciplinary team discusses site of care and white bagging of medications, issues many patients who receive treatment in the infusion centers face.

The Oncology clinical trial program continues to increase patient accruals at the Cedar Crest, Muhlenberg, and Pocono infusion centers. In FY24, 342 patients enrolled in treatment and data registry trials from pharmaceutical companies, the National Cancer Institute and Memorial Sloan Kettering. In the spring, two exciting studies opened at the Cedar Crest site. Both are vaccine studies for melanoma and pancreatic cancer. The pancreatic vaccine study is a first in human study, and we already have two patients on trial.

FY24 INFUSION VISITS BY SITE

30,505	MULTIPURPOSE AREA AT CEDAR CREST
13,414	MULTIPURPOSE AREA AT MUHLENBERG
14,178	POCONO
9,593	HECKTOWN OAKS
6,309	HAZLETON
3,863	SCHUYLKILL
3,419	CARBON

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-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





LEHIGH VALLEY HEALTH NETWORK OPENS FIRST NEIGHBORHOOD HOSPITALS

In the second half of FY24, Lehigh Valley Health Networks opened two neighborhood hospitals. A neighborhood hospital is not your conventional hospital. Its compact state-of-the-art design represents a new wave in health care delivery. With a limited number of inpatient beds, this community-oriented hospital ensures quality care remains the cornerstone. The first, Lehigh Valley Hospital—Macungie, opened in March 2024. The hospital has an 11-bed Emergency Department and a 10-bed inpatient unit. Lehigh Valley Hospital—Gilbertsville opened mid-June 2024. It has the same bed configurations.

While the neighborhood hospitals do not contain an inpatient pharmacy, the LVHN pharmacy department is busy supporting medication management. Medication orders are verified by Lehigh Valley pharmacists, and the pharmacy department maintains the stock in each of the medication rooms. For FY24, the hospital at Macungie administered 12,218 doses and Gilbertsville administered 2,337 doses. A pharmacy colleague visits each campus at least daily during the week to ensure that medication needs for patients are being met.

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 18 preceptors who offer a broad range of learning experiences.

WE WOULD LIKE TO CONGRATULATE THE ACHIEVEMENTS OF OUR **2024 GRADUATES**

Allexa Buckingham, PharmD - PGY2 Pediatric Residency at Penn State Health Milton S. Hershey Medical Center, Hershey, Pa.

Leah Castelnovo, PharmD - PGY2 Pediatric Residency at AdventHealth for Children, Orlando, Fla.

Stephen Ensor, PharmD - PGY2 Oncology Residency at Norton Children's Hospital, Louisville, Ky.

Shannon Fitzpatrick, PharmD - PGY2 Solid Organ Transplant Residency at Jackson Memorial Hospital, Miami

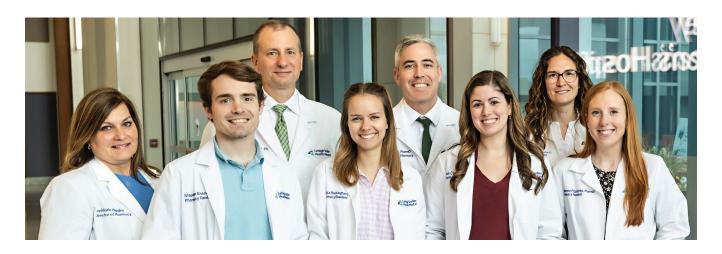
PHARMACY STUDENTS

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, St. Joseph's University Philadelphia College of Pharmacy, and Wilkes University's Nesbitt School of Pharmacy. In the last academic year, 18 clinical pharmacy specialists, clinical staff pharmacists and pharmacy administrators precepted 30 student APPE rotations and nine student IPPE rotations at six inpatient hospital sites and a number of Integrated Care Coordination (ICC) practices. Rotations precepted included ambulatory care, cardiology, emergency medicine, hospital/institutional, infectious diseases, internal medicine, pediatrics, transition of care, and organ transplant. Additionally, 21 pharmacy student interns were employed in the inpatient pharmacy departments in FY24. Two of the six interns who graduated from pharmacy school entered into a pharmacy residency program.

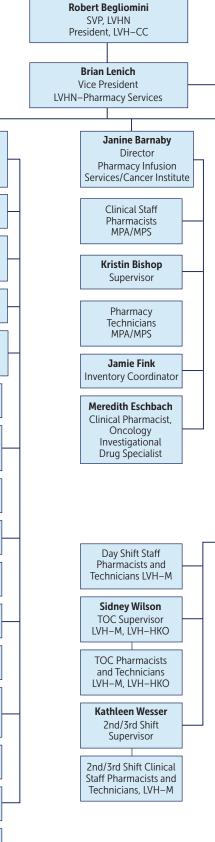
Lehigh Valley Pharmacy Services employed 6 student interns during FY24.

ACPE

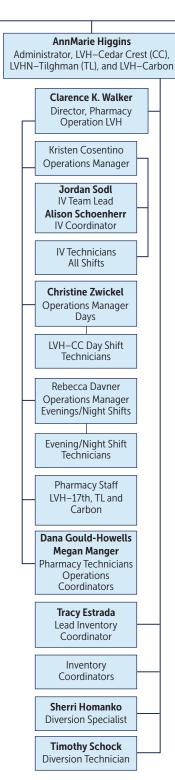
- Lehigh Valley Hospital Pharmacy Department sponsored 19 ACPE activities, accounting for 360 certificates of completion and 38,45 CEU or 384.5 continuing education credit hours for pharmacy staff.
- Lehigh Valley Hospital Pharmacy Department sponsored 6 ACPE activities in cooperation with the Department of Education, accounting for 31 certificates of completion and 11.45 CEU or 114.5 continuing education credit hours for pharmacy staff.

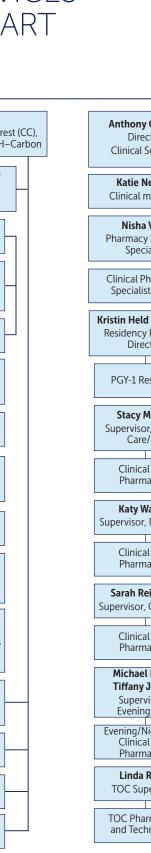


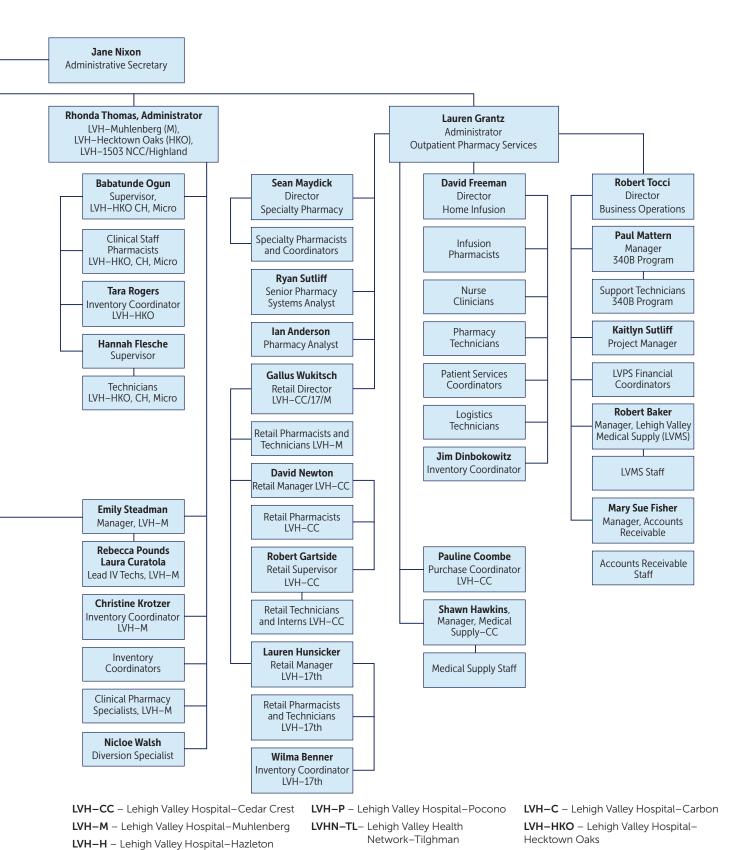
LVHN PHARMACY SERVICES ORGANIZATIONAL CHART



Raymond Bernardi VP-Operations LVH-Hazleton (LVH-H) LVH-Schuylkill (LVH-S) LVH-Pocono (LVH-P) LVH-Dickson City (LVH-DC) Joseph Wilson Manager, LVH-H **Pharmacy Staff** LVH-H Paul Darcangelo Manager, LVH-S Pharmacy Staff LVH-S **Scott Jenkins** Director, LVH-P **Richard Powers** Manager, LVH-P Pharmacy Staff LVH-P **Deborah Riccardo** Supervisor, LVH-DC **Pharmacy Staff** LVH-P Stella Cella **Diversion Specialist**







LVH-17th - Lehigh Valley Hospital-

17th Street

LVH-S - Lehigh Valley Hospital-Schuylkill

LVH-DC - Lehigh Valley Hospital-Dickson City

LVMS - Lehigh Valley Medical Supply

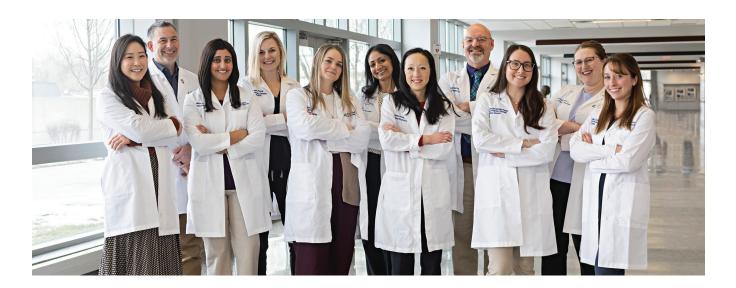
MEDICATION SAFETY

In fiscal year 2024, we completed deployment of CADD Solis PCA, to serve our pain management needs. Further we continue to tailor the ICU Medical Plum 360 pumps and the bi-directional Epic Interface. Together we have seen a 75% decrease in pump programming errors improving patient safety and a 40% reduction in alerts to nurses, reducing alert fatigue.

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. Together with Control Check, we have an 80% reduction in undocumented variances improving our Controlled Substance Accountability
- 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 has had this certification for 10+ years. We had a successful FDA survey in FY24 and received a full 6-year reaccreditation.



CLINICAL SERVICES

In FY24 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, once again provided additional cost savings in excess of \$500,000.

Clinical Pharmacy Services participated in a new initiative during FY24, supporting the Cedar Crest Emergency Department's orphaned culture/lab review process.

This multidisciplinary process incorporated ED clinical staff pharmacists and the ED clinical pharmacy specialist in review of complex post-discharge antimicrobial culture results for assistance in developing a clinically sound treatment plan. Ongoing data is being collected for future report out.

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 2.2 million phone calls, submitted 751,109 refills and recorded 158,373 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.

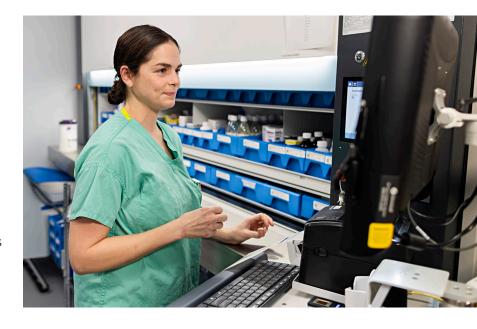


INPATIENT TECHNOLOGY

In FY24 we continued to implement vital technology in our pharmacies. Epic dispense prep, an intravenous preparation workflow solution, was implemented in a few more of our infusion and inpatient pharmacies. This technology adds barcode checking and captures images of the IV solutions as they are being compounded in our cleanrooms. There are a few more sites where we will be expanding this technology in FY25.

Controlled substance management and drug diversion prevention continued to remain a priority for the network. The new diversion software, Control Check by Bluesight, was rolled out to nursing leadership this past year. This allows pharmacy and nursing to work harmoniously to manage controlled substance accountability.

Finally, in FY24 the Cedar Crest and Muhlenberg campuses signed a contract to implement new Omnicell automation in the inpatient pharmacies. The Omnicell Carousels and XR2 robots will replace the existing dispensing robots, and this is scheduled to begin in FY25.





INTEGRATED CARE COORDINATION - POPULATION HEALTH

The Integrated Care Coordination (ICC) clinical pharmacy team underwent a redesign early in calendar year 2024. The shift focused on expanding opportunities for collaborative practice agreements and improving pharmacy and clinical quality measures, largely centered on the Medicare, Commercial and Medicare Advantage (MA) populations. Payer quality initiatives for the MA and Commercial populations, of nearly 26,000 members, primarily focused on the Pharmacy Quality Alliance Measures (Part D Measures) that aim to address medication adherence for statins, RASA agents and diabetes medications. In addition, the ICC pharmacists are working with providers across the network to address and improve statin use in patients with diabetes and cardiovascular disease (SUPD and SPC measures). Over the measurement year, we have seen steady and significant improvement in our SUPD and SPC stars ratings for the MA plans.

The ICC clinical pharmacists incorporated a proactive outreach pilot to address 56 patients involved in value-based contracts with uncontrolled hypertension, led by Kaitlyn Sheridan. Clinical pharmacist interventions demonstrated blood pressure lowering

from an average baseline of 155/81 mmHg to an average blood pressure of 137/77 mmHg post intervention. Clinical pharmacist interactions also improved home blood pressure monitoring in 84% of patients involved in the pilot, and optimized therapy by switching to preferred drug classes and adjusting medication doses. Other interventions included: decreasing pill burden, improving adherence and decreasing medications that increase blood pressure.

In March 2024, a new collaborative practice agreement (CPA) with LVHN Cardiology–1250 Cedar Crest and LVPG Cardiology–Muhlenberg went live. Cardiologists refer ambulatory HFrEF patients for titration and optimization of guideline-directed medical therapy (GDMT). This service aims to assist patients and providers navigating barriers to GDMT and achieve improvements in LVEF and quality of life. A clinical pharmacist specialist is embedded within the practice to help serve as a collaborative pharmacy resource to the multidisciplinary team.

The team offered experiential learning through a rotation in Ambulatory Care and an elective Patient Care rotation in Population Health for APPE pharmacy

students. A longitudinal PGY-1 residency rotation for pharmacy residents of LVHN is also provided in ICC.

The ICC clinical pharmacists continue to provide services to adult patients with uncontrolled type 2 diabetes (Type 2 DM) through a CPA. During FY24, 191 CPA referrals were received in which 76% of patients were enrolled in the program. The ICC clinical pharmacy specialists successfully demonstrated an average A1C reduction of 2.3% in managed patients and 1.9% reduction in the overall population. Type 2 DM CPA services expanded from nine to 20 practices in total on July 1, 2024, comprising of offices belonging to both LVPG Family Medicine and LVPG Internal Medicine.

ICC clinical pharmacist specialist Laura Mauro was involved in a successful pilot for what is now the LVPG Diabetes and Metabolism Center (DMC). A total of eight patients were enrolled in the pilot for medication optimization with a pharmacist. The average A1C reduction in managed patients was 3.7%.

These results, as well as ongoing success in managing Type 2 DM patients within primary care, led to the development of an embedded pharmacist role and implementation of a CPA with LVPG Endocrinology in May 2024. In this billable model, the embedded clinical pharmacist manages medication therapy for patients with type 1 and type 2 diabetes through the Medication Optimization Program (MOP), expanding the services offered at the DMC, previously known as Helwig Health and Diabetes Center. Medication management may be paired with intensive diabetes and diet education, Lifestyle Medicine, health coaching, and enrollment in patient assistance programs. The average pre-enrollment A1c is 10.79% for patients with T2DM (85.4% of enrollees) and 9.86% for patients with T1DM (14.6% of enrollees). Patients see the clinical pharmacist monthly and receive phone call check-ins between visits. Length of follow-up is three to six months, and the patient may "graduate" from the MOP once they have reached their patient specific A1c goal to continue their diabetes management with their endocrinologist or potentially, their primary care physician.

The team pursues balancing ambulatory and population health roles supporting the health system in improving patient chronic disease management and payer quality outcomes.

POPULATION HEALTH

In fiscal year 2024, the Populytics Care Coordination (PCC) pharmacy team concentrated its attention on the LVHN Employee Health Plan.

The servicing team includes a clinical pharmacist and pharmacy technician, partnering with the Populytics care management team and medical director.

Across all care management programs for the LVHN Employee Health Plan, in FY24 the pharmacy team made 1,556 interventions for 1,169 patients, resulting in an estimated cost avoidance of \$350,000. In addition, close management of the plan formulary resulted in savings of over \$10 million. Approximately \$1.2 million of those savings were attributable to newly implemented formulary rules.

The LVHN Employee Health Plan continues to see significant growth in spend on specialty medications and obesity medications, which have an important impact on the management of disease among the member population. The PCC team focus has been to ensure appropriate use of those drugs and seeking opportunities for cost reduction whenever appropriate. For example, in early 2024, an initiative to switch members to biosimilars was initiated, and when complete should yield an estimated \$3-6 million in savings for the plan.

FY25 PCC objectives, with continued focus on the LVHN Employee Health Plan and its members, include enhancement of existing medication utilization management efforts and new cost-savings initiatives.

DRUG DIVERSION

The Office of Diversion Prevention & Engagement, under the Office of the Chief Legal Officer, was established in September 2024. It is dedicated to safeguarding LVHN through proactive diversion prevention and training. Led by the Administrator of Diversion Prevention & Engagement (ADPE), our mission is to ensure the integrity and safety of our patients and LVHN by:

- Establishing clear policies and protocols for reporting suspected diversion events.
- Conducting comprehensive investigations into reported diversion incidents.
- Working collaboratively with various departments to ensure LVHN compliance with all relevant controlled substance regulations and standards.
- Providing training and resources to staff on recognizing and reporting diversion.
- Overseeing the maintenance of accurate records of all controlled substance activities throughout LVHN.
- Regularly reviewing and updating policies to reflect best practices and regulatory changes pertaining to controlled substances.

Our commitment is to foster a secure and compliant environment through vigilance, education, and continuous improvement.

TRANSITION OF CARE (TOC) PROGRAM



TOC technician, Nichole Diehl, won the Partner in Caring award at the Muhlenberg Campus.

The Transition of Care (TOC) 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 the fiscal year of 2024, the TOC pharmacists have produced 38,922 new prescriptions and refills. In FY24, it was shown that they made a difference in 90-day readmission rates in by decreasing readmissions by almost 3.63% at Hecktown, 3.67% at Cedar Crest, and 4.71% at Muhlenberg. The TOC program now expands across the Cedar Crest, Muhlenberg and Hecktown locations with 10 pharmacists and 5 technicians.

In this fiscal year, the TOC team assisted with the startup of the new Congestive Heart Failure Unit at the Northern Tiers. At Muhlenberg and Cedar Crest 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 technicians assisted patients with medication refills, cost of medications, connecting the patient with a nurse navigator to schedule appointments, etc.

In FY25, the TOC team is looking to expand within the current hospitals to provide coverage on other units including 6t and 7t at Muhlenberg.



LVHN PHARMACY SERVICES VISION AND STRATEGY

Pharmacy Services supports LVHN's vision 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 2024 survey results with colleagues.
- Gather ideas to advance the colleague experience and execute action plans.
- Focus on staffing, retention, onboarding and development.
- Expand pharmacy technician certification program to additional cohorts

PATIENT EXPERIENCE

- Work with Press Ganey to improve every aspect of our health care experience.
- Expand bedside prescription delivery and Transitions of Care (TOC) offerings to appropriate hospital campuses.
- Continue to embed the four core elements for what it takes to be Partners in Caring by creating a new kind of experience for our colleagues, clinicians, patients and guests.
- Work with Press Ganey on a structured journey to become a High Reliability Organization. Work to educate pharmacy leadership and staff as Partners in Safety.

GROWTH

- Continue planning for Neighborhood Hospitals,
 Cancer Center Pharmacy Expansion and Behavioral Health Hospital
- Expansion of 17th & Chew Pharmacy, pharmacybased infusions at 2024, and providing retail pharmacy services at LVH-Hazleton.
- Continue planning for the Integrated Operating Center

INTEGRATION AND TRANSFORMATION

- Continue to integrate policies and all hospital formularies into one health-system formulary.
- Continue to work on the TJU and LVHN integration.

COST SAVINGS

- Explore 340B optimization strategies, including additional HOPD conversions and alternate delivery models.
- Utilize our GPO, wholesaler procurement software and formulary harmonization to drive savings.

TECHNOLOGY AND INNOVATION

- •Implement Epic's Dispense Prep IV room workflow technology at LVH–Pocono, Hazleton and Schuylkill.
- Implement Omnicell Central Pharmacy Automation reducing errors, increasing inventory visibility, and optimize medication management at LVH—Cedar Crest and Muhlenberg.
- Continue to implement Kit Check's automated medication tray and cart management system, rollout ICU Medical Pump interoperability and rollout AeroScout at LVH-Pocono, 1503 N CC, Highland, and Hazleton
- Review retail pharmacy order entry systems and begin to plan for budgeting and conversion.

COMPLIANCE AND ACCREDITATION

- LVH-Cedar Crest and Pocono cleanroom upgrades to meet UPS 797/800 standards.
- Achieve ACHC accreditation for the Specialty Pharmacy Division.
- Controlled substance and diversion optimization.

PHARMACY SERVICES STAFF

LOCATION	POSITION	FTE
LVH–Hazleton	Pharmacists	8.9
	Pharmacy Techs	7.44
		16.3
	Pharmacists	1.5
Infusion	Techs	1.5
		3.0
	Pharmacists	11
	Pharmacy Techs	9.38
LVH-Schuylkill	Interns	0.02
	Additional Staff	1
		21.4
	Pharmacists	17.66
	Pharmacy Techs	14.11
LVH-Pocono	Interns	0.03
	Additional Staff	1
		32.8
	Pharmacists	20.1
	Pharmacy Techs	17.28
LVH-Muhlenberg	Interns	0.03
	Additional Staff	2.5
		39.91
	Pharmacists	7.4
MPA/MPS	Pharmacy Techs	5
		12.4
	Pharmacists	53.05
	Pharmacy Techs	57.5
	Interns	1.3
LVH-Cedar Crest	Residents	4
	Other	21
	Other (mgmt.)	6
		142.85
	Pharmacists	1
LVH-1503 N.	Pharmacy Tech	2
Cedar Crest	Additional Staff	1
		4

LOCATION	POSITION	FTE
11/11/57: 1	Pharmacists	6.2
	Pharmacy Techs	5.4
LVH-Dickson City	Other	2
		13.6
	Pharmacists	8.02
LVH-Hecktown	Pharmacy Techs	5.06
Oaks	Additional Staff	2.5
		15.58
	Pharmacists	2
Neighborhood Hospitals	Pharmacy Techs	1
o o p route		3
	Pharmacists	17.8
	Pharmacy Techs	34
LVPS Retail	Interns	0.8
	Additional Staff	5
		57.6
	Pharmacists	8.01
LVPS	Pharmacy Techs	11
Specialty	Inventory Coordinator	1
		20.01
	Pharmacists	5
	Pharmacy Techs	2.75
	Nurse Clinicians	2.02
LVPS	Delivery Techs	5.11
Home Infusion	Patient Services Coordinators	1
	Financial Coordinators	2
	Inventory Coordinator	1
		18.88
	Accounts Receivable Specialists	1.01
LVPS Billing	Financial Coordinators	6
	Additional Staff	2
		9.01
LVMS	Medical Supplies Specialists	2

PRESENTATIONS/PUBLICATIONS/POSTERS

PUBLICATIONS

Brooke Broczkowski

• Ritchie, Hannah; Broczkowski, Brooke; Sallerson, Samantha. 493: Assessing the Utilization and Influence of Procalcitonin on Antibiotic Decision Making in the ICU. Critical Care and Medicine 52(1):p S220, January 2024.

Laura Hayn

 Christopher L Kennedy, Laura N Hayn, Natalie E Ebeling-Koning, Gillian A Beauchamp, Prevention of latrogenic Fluid Overload with Naloxone Infusions: A Patient Safety Initiative, J Am Pharm Assoc. 2024 March-April; 64(2):370-371

PRESENTATIONS

Janine Barnaby

- Oncology Core Course: Pharmacologic Overview of Oncology Medications, presented to oncology nurses October 2023, April 2024
- Transplant Course: Preparative Regimens/Supportive Therapy, presented to nurses, dietitians, financial coordinators September, October 2023; January, March, May 2024
- Overview Oncology Medications & Protocols, presented to hematology/oncology fellows July, August 2024

Brooke Broczkowski

 Navigating Beta Lactam Allergies, CE presentation for LVHN pharmacy staff

Allexa Buckingham

- Case Presentation: Anti-NMDA Receptor, presented to clinical pharmacists, pharmacy residents and pharmacy students
- Case Presentation: Gastrointestinal Bleeds, presented to clinical pharmacists, pharmacy residents and pharmacy students
- Case Presentation: Atrial Fibrillation in Solid Organ Transplant, presented to clinical pharmacists and pharmacy residents
- Case Presentation: Syndrome of Inappropriate Antidiuretic Hormone Overview, presented to clinical pharmacists
- Case Presentation: Management of Diabetic Complications, presented to ambulatory clinical pharmacists, pharmacy residents and pharmacy students
- Medication Use Evaluation of Neonatal Starter Total Parenteral Nutrition, presented to pharmacists at Vizient and ASHP midyear conferences
- Inpatient Hyperglycemia Management, presented to family medicine residents

- Evaluation of early outcomes in kidney transplant recipients discharged on subtherapeutic tacrolimus and/or mycophenolate, presented at MEPSHP Night of the Residents
- Promoting Self Directed Learning (ACPE), presented to clinical pharmacists
- Evaluation of early outcomes in kidney transplant recipients discharged on subtherapeutic tand/or mycophenolate, presented at Eastern States Residency Conference
- Community Acquired Pneumonia in the Pediatric Population (ACPE), presented to clinical pharmacists and pharmacy residents

Leah Castelnovo

- Case Presentation: Cholic Acid Use in Zellweger's Syndrome, presented to clinical pharmacists
- Case Presentation: Migraine Treatment, presented to clinical pharmacists
- Case Presentation: Preseptal vs. Orbital Cellulitis, presented to clinical pharmacists
- Case Presentation: COVID-19 Treatment in Immunocompromised Patients, presented to clinical pharmacists
- Case Presentation: Polypharmacy Risk in Older Adults, presented to ambulatory care clinical pharmacists
- Introduction to Antibiotic Management, presented to family medicine residents
- ACPE Preceptor Pearl: Engaging and Motivating Learners, presented to clinical preceptors
- ACPE Presentation: Necrotizing Enterocolitis in Newborns, presented to clinical preceptors
- Medication use evaluation of intranasal and buccal dexmedetomidine for procedural sedation – presented at Vizient and ASHP Midyear conference
- Evaluation of amoxicillin/clavulanate formulation and dosing pre- and post-implementation of a decision support intervention in pediatric patients, presented at MEPSHP Night of the Residents and Eastern States Residency Conference

Ronald Davis

• 2024 LVHN Stroke Symposium: Overcoming Post-Stroke Hurdles and Going for Gold with Transition of Care Pharmacy, CE presentation to health care professionals

Stephen Ensor

- Case Presentation: Lithium Toxicity, presented to clinical pharmacists
- Case Presentation: Sydenham's Chorea in a Pediatric Patient, presented to clinical pharmacists
- Case Presentation: GLP-1 Receptor Agonists and Diabetic Retinopathy, presented to ambulatory care clinical pharmacists

- Direct Oral Anticoagulants in Pediatric Oncology Patients, presented to pediatric hematology/oncology clinic providers and staff
- Evaluation of Dose Rounding Opportunities for Cytotoxic Preparations and Monoclonal Antibodies in Pediatric Patients (MUE), presented at Vizient and ASHP midyear conferences
- ACPE Precepting Pearls: Identifying Burnout, presented to clinical pharmacists
- Case Presentation: Transplantation of a Hepatitis C Positive Kidney in a Hepatitis C Negative Recipient, presented to clinical pharmacists
- Evaluation of the impact of an oral dextrose gel protocol on reduction of neonatal intensive care unit admissions, presented at MEPSHP Night of the Residents and Eastern States Residency Conference
- Bispecific T Cell Engagers for Treatment of Adults with Relapsed/Refractory Multiple Myeloma (ACPE), presented to pharmacy staff
- Management of Inpatient Diabetes and Hyperglycemia, presented to LVHN family medicine residents

Matthew Fair

- July 2023 Opioid Prescribing in the Hospital Setting, presented to incoming medical residents
- Sept. 16, 2023 Medications Associated with Falls, CE presentation to LVHN PT/OT rehab therapy team
- Nov. 1, 2023 Deprescribing Medications used for Dementia, CE presentation for PSU The 4Ms of Ageand Dementia-Friendly Care Project ECHO Series
- May 2, 2024 Spring 2024 Clinical Pearls, CE copresentation w/Katie Nesbitt, Jason Laskosky, Brooke Broczkowski and Arun Mancheril

Shannon Fitzpatrick

- Case Presentation: Seize the Opportunity–New Onset Seizure Management, presented to clinical pharmacists
- Case Presentation: Diabetes Management in the Visually Impaired, presented to clinical pharmacists
- Case Presentation: Who's Afraid of Little Old Thallium
 Thallium Poisoning, presented to clinical pharmacists
- Medication Use Evaluation of Oxytocin and Hemorrhage Rates Pre- and Post-Shortage, presented to pharmacists at Vizient and ASHP midyear conferences
- Topic Presentation: Pericarditis, presented to clinical pharmacists
- Updates to Transplant Induction Dosing Protocol, presented to clinical pharmacists
- Antibiotic Review of Common Infections, presented to family medicine residents
- Evaluation of the Safety and Efficacy of Direct Oral Anticoagulants in Obese Patients, presented at MEPSHP Night of the Residents
- Teaching Styles Preceptor Pearl (ACPE), presented to clinical pharmacists
- Evaluation of the Safety and Efficacy of Direct Oral Anticoagulants in Obese Patients, presented at Eastern States Residency Conference

• Transplant Infection Prophylaxis and CMV Treatment (ACPE), presented to clinical pharmacists

Kristin Held-Wheatley

- Infectious Disease Pediatric Pharmacy Association Fall BCPPS Review and Recertification Course, Chicago, October 2023
- Hematology/Oncology Pediatric Pharmacy Association Fall BCPPS Review and Recertification Course, Chicago, September 2023
- Beta-Lactam Antibiotics, presented to pediatric medical residents, PediaPred Lecture Series, August 2023
- Everything BUT Beta-Lactam Antibiotics, presented to pediatric medical residents, PediaPred Lecture Series, August 2023
- All Things Asparaginase, Pediatric Oncology Provocative Questions (POP-Q), New Orleans, July 2023

Jarrod Kile

- Tools for Your Toolbox: Educating on Vaccines, LVHN Project ECHO® videocast: ANCC/CE/CME credits, June 21, 2024
- SIDP Antimicrobial Stewardship Certification Program, Jarrod W. Kile, Yi Guo, Radhika Polisetty, Webex, May 16, 2024
- Participatory Modeling & Outbreak Science Symposium, Shaun Truelove, David Synnamon, Dr. Alex Benjamin, Jarrod W. Kile, Lehigh University, May 2, 2024
- 2023-2024 Update on Adult Vaccines and Vaccination, presented at ME-PSHP: CE credits, March 21, 2024

Ann Kirka

- November 2023 High Risk Fall Medications, presented at the annual Fall Prevention Retreat
- June 2024 Orthostatic Hypotension, Toilet Tales monthly newsletter (and is required TLC learning for nurses)

Jason Laskosky

- Toxicokinetics & Toxicodynamics
- Shock, Fluid & Vasopressors in the Adult ICU
- Arun Mancheril
- Transplant Course: Preparative Regimens/Supportive Therapy, presented to nurses, dietitians, financial coordinators, September, October 2023; January, March, May 2024
- Overview Oncology Medications & Protocols, presented to hematology/oncology fellows, July, August 2024

Jessica Price

- Antipsychotic Medication Selection, presented to psychiatry residents, Lehigh Valley Health Network, Dec. 6, 2023
- Psychiatric Pharmacy Pearls, presented at Psychiatry Grand Rounds, Lehigh Valley Health Network, July 26, 2023

Megan Taylor

- Clarifying the Confusion: Comparison of Treatment Modalities for Valproate-Associated Hyperammonemia, presented at the Society of Critical Care Medicine Congress 2024
- Understanding Drug Product Formulations, presented to toxicology team (fellows, residents, attendings and students)

Sidney Wilson

 Prescription for a Better Discharge, PSHP 2023 Annual Assembly, Sept. 20, 2023

POSTERS

Allexa Buckingham

 Medication Use Evaluation of Neonatal Starter Total Parenteral Nutrition, Vizient and ASHP midyear poster presentation

Leah Castelnovo

 Medication use evaluation of intranasal and buccal dexmedetomidine for procedural sedation, Vizient and ASHP poster presentation

Stephen Ensor

 Evaluation of Dose-Rounding Opportunities for Cytotoxic Preparations and Monoclonal Antibodies in Pediatric Patients (MUE), Vizient and ASHP midyear poster presentation

Shannon Fitzpatrick

 Medication Use Evaluation of Oxytocin and Hemorrhage Rates Pre- and Post-Shortage, Vizient and ASHP midyear poster presentation

Kristin Held-Wheatley

• O'Connor C, Villalobos-Fry T, Wheatley KH. Antibiotic Treatment of Acute Otitis Media, Research Scholar Closing Ceremony, Lehigh Valley Health Network, Allentown, Pa., July 2023

Jarrod Kile

 Adherence to Guideline-Based Treatment of Recurrent C. difficile within LVHN Hospitals, Zoe Tarun; Kathryn Zaffiri, MPH; Eric Young, MD; Jarrod W. Kile, RPh, BCPS, BCIDP, LVHN Research Summer Scholar Program; Allentown, Pa., August 2024

JOURNAL CLUB

Allexa Buckingham

- Trial of Hybrid Closed-Loop Control in Young Children with Type 1 Diabetes (Pediatric Artificial Pancreas PEDAP)
- Once Weekly Icodec vs. Daily Glargine U100 in Patients without Previous Insulin (ONWARDS 1)
- Real World Experience with Conversion from Valgancyclovir to Letermovir for Cytomegalovirus Prophylaxis

Leah Castelnovo

- Nirsevimab for Prevention of RSV in Healthy Late-Preterm and Term Infants
- Lecanemab in Alzheimer's Disease
- SGLT2 inhibitors in Kidney Transplant Recipients
- Apixaban for Stroke Prevention in Subclinical Atrial Fibrillation
- Comparison of Nebulized Ketamine to Intravenous Subdissociative Dose Ketamine for Treating Acute Painful Conditions in the Emergency Department

Stephen Ensor

- Sotagliflozin in Patients with Diabetes and Recent Worsening Heart Failure
- Antibiotic Prophylaxis in Infants with Grade III, IVor V Vesicoureteral Reflux
- The Effects of Opt-out vs Opt-in Tobacco Treatment on Engagement, Cessation, and Costs: A Randomized Clinical Trial
- A Head-to-Head Comparison of De Novo Sirolimus or Everolimus Plus Reduced Dose Tacrolimus in Kidney Transplant Recipients: A Prospective and Randomized Trial

Shannon Fitzpatrick

- StopACEi
- •1 vs. 2 COVID Boosters in Kidney Transplant Recipients
- ELAN
- TIME

CLINICAL PEARLS

Allexa Buckingham

- Clinical Pearl: Drug Interactions with Continuous Glucose Monitors, presented to clinical pharmacists and pharmacy residents
- Clinical Pearl: Potassium Lowering Agents, presented to solid organ transplant nurses, clinical pharmacist and pharmacy residents

Leah Castelnovo

- Importance of Accurate Sinemet Dosing
- Review of mTOR Inhibitor Use in Kidney Transplant
- Utilization of tPA + Dornase Alfa in Pediatric Empyema

Stephen Ensor

- Review of Bell's Palsy Treatment Options
- Direct Oral Anticoagulants in Pediatric Oncology Patients
- Premedication for pegylated asparaginase during pediatric acute lymphoblastic leukemia/lymphoma therapy

Shannon Fitzpatrick

- Drug Induced Hepatotoxicity from Augmentin
- Kidney Induction Protocol Updates

Jessica Price

 Achieving Glucose Control with Subcutaneous Insulin, presented to pharmacist staff, LVH-Muhlenberg, Oct. 3 and 5, 2023, June 11, 2024

