JANUARY 2026 (WINTER EDITION)

The Valley Hospital
Valley Health System

VOLUME 29

PHARMACY FOCUS

JOURNAL OF THE VALLEY HOSPITAL PHARMACY

FORMULARY UPDATES

Pafolacianine (Cytalux)

- FDA-approved imaging agent for identification of malignant ovarian lesions and pulmonary lesions suspicious for lung cancer. Administered as a 0.025 mg/kg IV infusion over at least 60 minutes with required thawing prior to use. Demonstrates lower false-positive rates, improved lesion detection, tolerable adverse effects, and enhanced margin clearance. Approved for inpatient formulary.

Fecal Microbiota, live-jslm (Rebyota)

- Indicated for prevention of recurrent Clostridioides difficile infection in adults ≥18 years following antibiotic therapy. Restores gut microbiota balance and reduces CDI recurrence compared with placebo. Administered as a single-dose rectal enema 24–72 hours after antibiotics. Approved for inpatient formulary.

Vutrisiran (Amvuttra)

- Indicated for cardiomyopathy and polyneuropathy associated with wild-type or hereditary transthyretin-mediated amyloidosis. It is an RNA interference therapy that reduces transthyretin protein production. Administered as a 25 mg subcutaneous injection every 3 months. Approved for inpatient formulary.

Dexamethasone Ophthalmic Insert (Dextenza)

- Indicated for ocular inflammation and pain after ophthalmic surgery and ocular itching due to allergic conjunctivitis in patients ≥2 years. Provides sustained anti-inflammatory effect for up to 30 days without eye drops. Inserted into the punctum/canaliculus with no repeat dosing required. Approved for outpatient procedural use only.

Landiolol (Rapiblyk)

- Indicated for short-term ventricular rate control in adults with supraventricular tachycardia, including atrial fibrillation and flutter. A highly β1-selective agent with minimal impact on blood pressure and inotropy, providing rapid heart rate control. Dosing starts as 9 mcg/kg/min (maximum 36 mcg/kg/min) for normal cardiac function or 1 mcg/kg/min for impaired cardiac function. Approved for inpatient formulary, restricted to the Cardiac ICU.

Obinutuzumab (Gazyva)

- A type II anti-CD20 monoclonal antibody that binds to CD20 on pre-B and mature B lymphocytes, resulting in B-cell lysis through antibody-dependent cellular cytotoxicity and direct cell death. Indicated for chronic lymphocytic leukemia and follicular lymphoma. Approved and added to formulary.

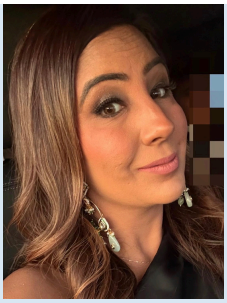
IN THIS ISSUE

RON'S RETIREMENT PARTY!
CELEBRATING 21 YEARS AT THE VALLEY HOSPITAL

Ron Krych has retired after 21 years of outstanding dedication and contributions to our pharmacy team. Throughout his time at Valley, Ron built lasting friendships, created countless memories, and brought positivity to everyone he worked with. The team had a wonderful time celebrating his retirement with drinks and pizza at Plank Pizza, a much-needed send-off for such a valued colleague.

Ron's humor, storytelling, and team spirit will truly be missed at The Valley Hospital, but we are excited for him as he begins this well-deserved next chapter. We wish him all the best in retirement!

WELCOME OUR NEW INPATIENT SUPERVISOR: VANITA AHUJA



Vanita brings an experience in hospital pharmacy management and has served as an adjunct faculty member at FDU College of Pharmacy, Albany College of Pharmacy, Rutgers University, Philadelphia College of Pharmacy, and the Massachusetts College of Pharmacy. She is an active member of the Advisory Board Committee at FDU College of Pharmacy and currently works as a consultant for B. Braun. She is licensed to practice pharmacy in both New Jersey and New York.

She earned her Doctor of Pharmacy degree from the Arnold & Marie Schwartz College of Pharmacy and Health Sciences at Long Island University in Brooklyn, NY. She completed a PGY-1 pharmacy residency at St. Luke's-Roosevelt Hospital (Mount Sinai) in New York and most recently obtained a Master's degree in Healthcare Management from the University of Bristol in city of Bristol, UK.

She is excited to step into this new role and apply her diverse background to enhance and streamline pharmacy workflow processes, collaborate with interdisciplinary teams, and ensure regulatory compliance. Outside of work, Vanita enjoys spending time with her family and friends and has a strong passion for travel. We are thrilled about what's ahead for Vanita as our new supervisor!

DRUG INFO CORNER: ANDEXXA REMOVAL

GIANNA TRAENKNER, PHARMD

The FDA has announced that postmarketing safety data identified increased rates of thromboembolic events, including serious and fatal outcomes, in patients treated with Andexxa (coagulation factor Xa [recombinant], inactivated-zhzo). Based on the available evidence, the agency determined that the risks, particularly the increased incidence of thrombosis, outweighed the product's benefits. Following discussions with the FDA, AstraZeneca voluntarily requested withdrawal of the biologics license application and confirmed that U.S. manufacturing and commercial distribution would end. As of December 22, 2025, Andexxa is no longer manufactured or sold in the United States. The FDA emphasized that ongoing postmarketing safety surveillance for biologic products remains a priority and that the agency will continue to communicate important safety findings to clinicians and the public.

The decision followed review of data from the ANNEXA-I trial, submitted in January 2024 to fulfill the post-approval requirement to verify clinical benefit after the product's original accelerated approval in 2018. In patients with intracerebral hemorrhage associated with rivaroxaban or apixaban, the trial demonstrated higher rates of thrombotic events and thrombosis-related deaths at 30 days in the Andexxa group compared with usual care (14.6% vs 6.9% for thrombosis; 2.5% vs 0.9% for thrombosis-related mortality), with many events occurring early after treatment. These findings contributed to the FDA's conclusion that the overall benefit–risk profile was unfavorable, leading to discontinuation of U.S. availability.

ADDITIONAL SAFETY DATA FROM "A PHASE 4 RCT OF ANDEXXA IN ACUTE INTRACRANIAL HEMORRAGE IN PATIENTS TAKING AN ORAL FACTOR XAI"

Event	Andexanet N = 263	Usual Care N = 267	Increase per 100 Patients (95% CI)	P value
Thrombotic event	27 (10.3%)	15 (5.6%)	4.6 (0.1 to 9.2)	0.048
Transient ischemic attack	0	0	-	-
Ischemic stroke	17 (6.5%)	4 (1.5%)	5.0 (1.5 to 8.8)	-
Myocardial infarction	11 (4.2%)	4 (1.5%)	2.7 (-0.2 to 6.1)	-
Deep-vein thrombosis	1 (0.4%)	2 (0.7%)	-0.4 (-2.4 to 1.5)	-
Pulmonary embolism	1 (0.4%)	6 (2.2%)	-1.9 (-4.5 to 0.2)	-
Arterial systemic embolism	3 (1.1%)	2 (0.7%)	0.4 (-1.7% to 2.7)	-
Death	73 (27.8%)	68 (25.5%)	2.5 (-5.0 to 10.0)	0.51

References
1. Connolly SJ, Sharma M, Cohen AT, et al. Andexanet for Factor Xa Inhibitor-Associated Acute Intracerebral Hemorrhage. N Engl J Med. 2024;390(19):1745-1755.
2. Milling TJ Jr, Middeldorp S, Xu L, et al. Final Study Report of Andexanet Alfa for Major Bleeding With Factor Xa Inhibitors. Circulation. 2023;147(13):1026-1038.
3. U.S. Food and Drug Administration. Update on the Safety of Andexxa. FDA; December 18, 2025.

ASHP MIDYEAR

FUN FACTS ABOUT ASHP MIDYEAR AND LAS VEGAS!

- ASHP Midyear attracts more than 25,000 pharmacy professionals each year.
- Residents showcase their research and residency programs to prospective candidates.
- The conference rotates between Orlando, Las Vegas, New Orleans, and Anaheim.
- Las Vegas is three hours behind New Jersey, so make sure to plan your morning coffee accordingly!
- Vegas is home to more than 150 casinos and over 150,000 hotel rooms.
- The city averages more than 300 sunny days a year – perfect for walking between hotels.
- You can explore thousands of poster presentations across all pharmacy specialties.
- Pharmacy-related companies showcase their products and network with pharmacy professionals.

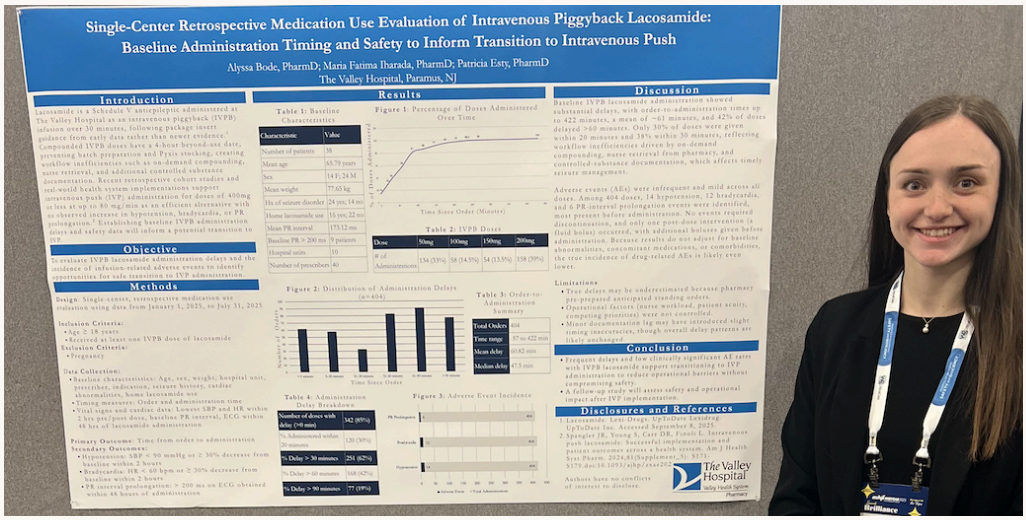
REFERENCES
1. ASHP MIDYEAR CLINICAL MEETING & EXHIBITION WEBPAGE. ASHP. MIDYEAR.ASHP.ORG. UPDATED 2025.
2. NECOLE S. WHAT IS THE LAS VEGAS STRIP? VEGAS RIGHT NOW! JANUARY 22, 2024

ASHP MIDYEAR RESEARCH PRESENTATIONS

"SINGLE-CENTER RETROSPECTIVE MEDICATION USE EVALUATION OF INTRAVENOUS PIGGYBACK LACOSAMIDE: BASELINE ADMINISTRATION TIMING AND SAFETY TO INFORM TRANSITION TO INTRAVENOUS PUSH"

ALYSSA BODE, PHARMD

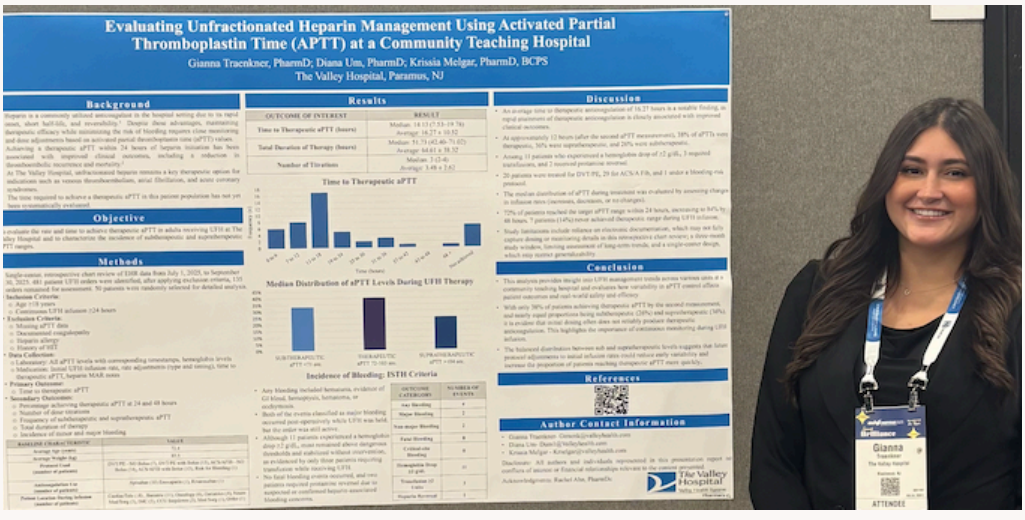
This project evaluated lacosamide administration workflows and identified delays associated with compounded IV piggyback preparation and delivery. Review of internal data and external evidence supported intravenous push administration as a safe and efficient alternative. Based on these findings, lacosamide was approved for IVP use with standardized administration times and staff education to reduce treatment delays.



"EVALUATING UNFRACTIONATED HEPARIN MANGAMENT USING ACTIVATED PARTIAL THROMBOPLASTIN TIME AT A COMMUNITY TEACHING HOSPITAL"

GIANNA TRAENKNER, PHARMD

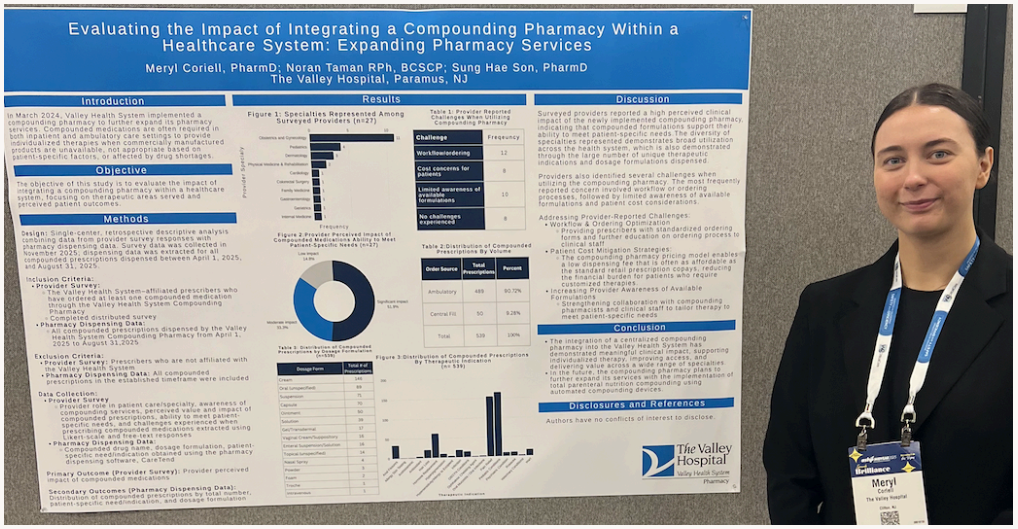
My research analyzed the current landscape of unfractionated heparin (UFH) usage in our hospital. It evaluated the incidence of supratherapeutic, subtherapeutic, and therapeutic activated partial thromboplastin time (aPTT) ranges in adult patients receiving continuous heparin infusions for at least 24 hours. The findings suggest that further optimization of heparin dosing protocols may be warranted to increase time spent within the therapeutic aPTT range, thereby reducing the risk of both bleeding and thrombotic events and promoting improved patient outcomes.



“EVALUATING THE IMPACT OF INTEGRATING A COMPOUNDING PHARMACY WITHIN A HEALTHCARE SYSTEM: EXPANDING PHARMACY SERVICES

MERYL CORIELL, PHARMD

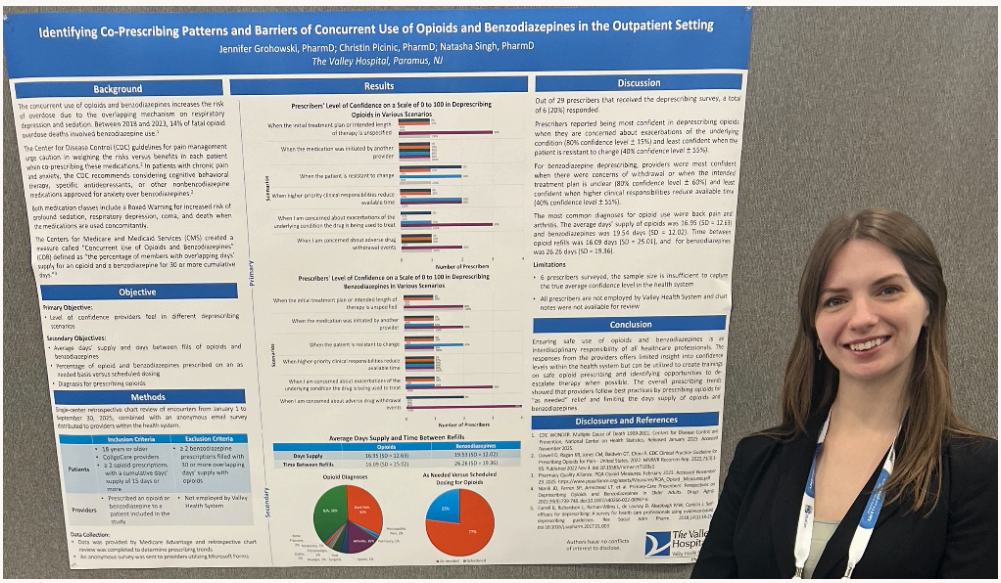
This project evaluated the impact of integrating a compounding pharmacy within our healthcare system using a provider survey and analysis of total prescription dispense data during the study period. Results demonstrated positive provider perceptions of compounded medications, broad utilization of the compounding pharmacy across the health system, and opportunities to expand pharmacy services.



“IDENTIFYING CO-PRESCRIBING PATTERNS AND BARRIERS OF CONCURRENT USE OF OPIOIDS AND BENZODIAZEPINES IN THE OUTPATIENT SETTING”

JENNIFER GROHOWSKI, PHARMD

The Centers for Medicare and Medicaid Services has a quality measures called "Concurrent Use of Opioids and Benzodiazepines" that aims to reduce the co-prescribing of these medications to patients. Opioids and benzodiazepines have a boxed warning for increased risk of respiratory depression and death when used concomitantly. My research was based on a survey sent to prescribers within our health system to assess their confidence in de-prescribing either benzodiazepines or opioids under different circumstances. The survey showed that providers are least comfortable discontinuing opioids when the patient is resistant to change and discontinuing benzodiazepines when they have higher clinical responsibilities reducing available time. This research can be used to help pharmacists close these gaps in patient care to prevent the concurrent use of opioids and benzodiazepines.



KETAMINE VS ETOMIDATE FOR TRACHEAL INTUBATION OF CRITICALLY ILL PATIENTS

GIANNA TRAENKNER, PHARMD

Study Question and Design

- "Does induction with ketamine versus etomidate affect 28-day in-hospital mortality in critically ill adults without trauma undergoing emergency tracheal intubation in the ED or ICU?"
- A multicenter, randomized clinical trial conducted across 14 emergency departments and intensive care units in the United States. A total of 2,365 patients were enrolled between April 2022 and August 2025 and were allocated 1:1 to receive either ketamine or etomidate for induction. The trial used an open-label design with independent outcome assessors.

Baseline Characterisitc Snapshot (Ketamine vs Etomidate)

- Age: 60 vs 60 years
- Median BMI: 26.9 vs 26.7
- Location of intubation: ~56% ED | ~44% ICU
- Severity: GCS 11 vs 11; APACHE II 18 vs 18
- Sepsis/septic shock: 45.8% vs 47.5%
- Chronic Conditions: Adrenal Insufficiency/long-term glucocorticoids: 11.6% vs 10.8%
- Vasopressor use before intubation: 20.9% vs 23.0%
- Primary indications: Encephalopathy (~36%) and hypoxemic respiratory failure (~33%)

Results

Primary Outcome – In-hospital Death by Day 28

- Ketamine: 330 of 1,173 patients (28.1%)
- Etomidate: 345 of 1,186 patients (29.1%)

Adjusted risk difference: -0.8 percentage points (95% CI, -4.5 to 2.9; P = 0.65)

There was no statistically significant difference in 28-day in-hospital mortality between the two groups.

Secondary Outcome – Cardiovascular Collapse

Ketamine*: 260 of 1,176 patients (22.1%)

Etomidate: 202 of 1,189 patients (17.0%)

Risk difference: 5.1 percentage points (95% CI, 1.9 to 8.3)

Figure S3. Kaplan-Meier Curves for Survival in the Ketamine vs Etomidate Group

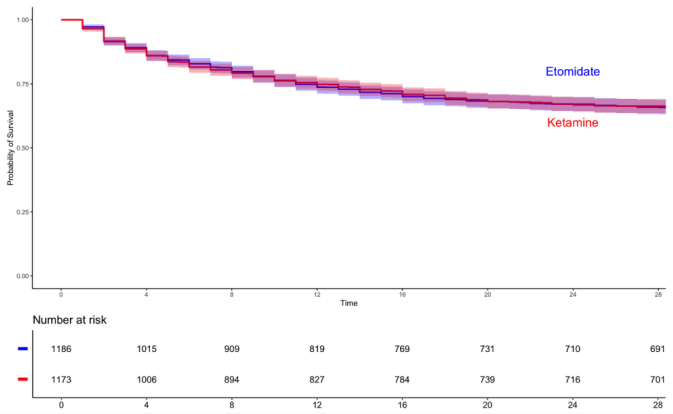
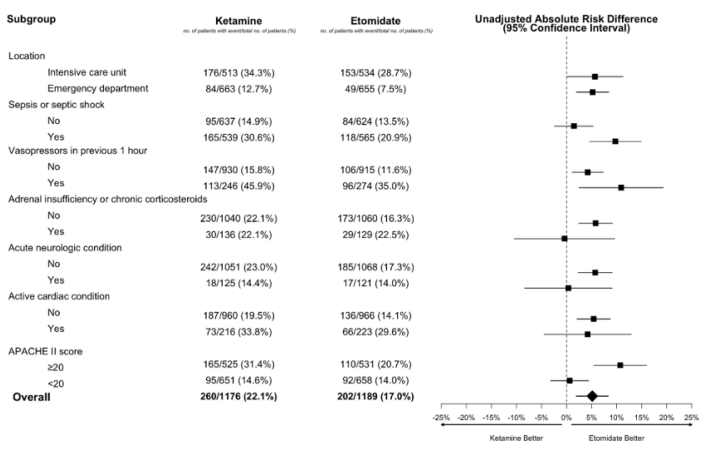


Figure S9. Subgroup Analyses of the Secondary Outcome



Subgroup	Ketamine	Etomidate
Location		
Intensive care unit	176/513 (34.3%)	153/534 (28.7%)
Emergency department	84/663 (12.7%)	49/655 (7.5%)
Sepsis or septic shock		
No	95/637 (14.9%)	84/624 (13.5%)
Yes	165/539 (30.6%)	118/565 (20.9%)
Vasopressors in previous 1 hour		
No	147/930 (15.8%)	106/915 (11.6%)
Yes	113/246 (45.9%)	96/274 (35.0%)
Adrenal insufficiency or chronic corticosteroids		
No	230/1040 (22.1%)	173/1060 (16.3%)
Yes	30/136 (22.1%)	29/129 (22.5%)
Acute neurologic condition		
No	242/1051 (23.0%)	185/1068 (17.3%)
Yes	18/125 (14.4%)	17/121 (14.0%)
Active cardiac condition		
No	187/960 (19.5%)	136/966 (14.1%)
Yes	73/216 (33.8%)	66/223 (29.6%)
APACHE II score		
≥20	165/525 (31.4%)	110/531 (20.7%)
<20	95/651 (14.6%)	92/658 (14.0%)
Overall	**260/1176 (22.1%)**	**202/1189 (17.0%)**

Conclusion

This trial found no difference in 28-day mortality between ketamine and etomidate for RSI in critically ill adults. However, cardiovascular collapse occurred more frequently with ketamine (22% vs 17; ~1 additional event per 20 patients).

Although most patients received standard induction doses, a substantial proportion received higher-than-recommended dosing (>2 mg/kg ketamine; >0.3 mg/kg etomidate), which may have influenced hemodynamic outcomes.

This study adds to the ongoing debate regarding optimal induction agents in hemodynamically unstable patients. Etomidate was associated with less cardiovascular collapse during RSI, particularly among patients with sepsis or septic shock. When ketamine is used in unstable patients, lower induction doses should be considered to mitigate hemodynamic risk.

*Cardiovascular collapse i s defined as the occurrence of systolic blood pressure <65 mm Hg, new or increased vasopressor requirement, or cardiac arrest

References

1. Casey JD, Seitz KP, Driver BE, et al. Ketamine or Etomidate for Tracheal Intubation of Critically Ill Adults. N Engl J Med. Published online December 9, 2025.

PHARMACY WEEK!

OCTOBER 19-25

Pharmacy Week was a fantastic celebration across all of our pharmacy locations! Throughout the week, team members enjoyed daily games and friendly competition, with winners announced each day. We closed out the festivities by sharing a delicious cake together. Thank you to everyone who joined in and helped make the week such a success – we hope you had as much fun as we did! If you didn't get a chance to participate, one of the games we featured is included below. Give it a try!

GUESS THE DRUG USING EMOJIS!

1. 🐶🐶👀🚲 :
2. ⬅️BACK💇‍♀️🆖
3. 🌀🚫🥛
4. N👁️💳👁️🌲
5. 🅰️📄✈️:
6. 🛑🌳😮🌊
7. 🪀🎨🏖️
8. ⏰😲😂
9. 🗣️🦊👁️-🗑️
10. 🅰️🥶🪨😢

ANSWERS:DOXYCYCLINE, BACTRIM,SPRINOLACTONE, NICARDIPINE,ABILIFY,OCTREOTIFE,CANDISARTAN,TIMOLOL,CEFOXITIN,ABIRATERONE

Single-Center Retrospective Medication Use Evaluation of Intravenous Piggyback Lacosamide: Baseline Administration Timing and Safety to Inform Transition to Intravenous Push

Alyssa Bode, PharmD; Maria Fatima Iharada, PharmD; Patricia Esty, PharmD
The Valley Hospital, Paramus, NJ

Introduction

Lacosamide is a Schedule V antiepileptic administered at The Valley Hospital as an intravenous piggyback (IVPB) infusion over 30 minutes, following package insert guidance from early data rather than newer evidence.[1] Compounded IVPB doses have a 4-hour beyond-use date, preventing batch preparation and Pyxis stocking, creating workflow inefficiencies such as on-demand compounding, nurse retrieval, and additional controlled substance documentation. Recent retrospective cohort studies and real-world health system implementations support intravenous push (IVP) administration for doses of 400mg or less at up to 80 mg/min as an efficient alternative with no observed increase in hypotension, bradycardia, or PR prolongation.[2] Establishing baseline IVPB administration delays and safety data will inform a potential transition to IVP.

Objective

To evaluate IVPB lacosamide administration delays and the incidence of infusion-related adverse events to identify opportunities for safe transition to IVP administration.

Methods

Design: Single-center, retrospective medication use evaluation using data from January 1, 2025, to July 31, 2025

Inclusion Criteria:
- Age ≥ 18 years
- Received at least one IVPB dose of lacosamide

Exclusion Criteria:
- Pregnancy

Data Collection:
- Baseline characteristics: Age, sex, weight, hospital unit, prescriber, indication, seizure history, cardiac abnormalities, home lacosamide use
- Timing measures: Order and administration time
- Vital signs and cardiac data: Lowest SBP and HR within 2 hrs pre/post dose, baseline PR interval, ECG within 48 hrs of lacosamide administration

Primary Outcome: Time from order to administration
Secondary Outcomes:
- Hypotension: SBP < 90 mmHg or ≥ 30% decrease from baseline within 2 hours
- Bradycardia: HR < 60 bpm or ≥ 30% decrease from baseline within 2 hours
- PR interval prolongation: > 200 ms on ECG obtained within 48 hours of administration

Results

Table 1: Baseline Characteristics

Characteristic	Value
Number of patients	38
Mean age	65.79 years
Sex	14 F; 24 M
Mean weight	77.65 kg
Hx of seizure disorder	24 yes; 14 no
Home lacosamide use	16 yes; 22 no
Mean PR interval	173.12 ms
Baseline PR > 200 ms	9 patients
Hospital units	10
Number of prescribers	40

Figure 1: Percentage of Doses Administered Over Time

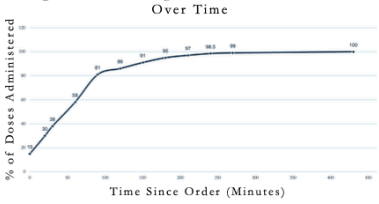


Table 2: IVPB Doses

Dose	50mg	100mg	150mg	200mg
# of Administrations	134 (33%)	58 (14.5%)	54 (13.5%)	158 (39%)

Figure 2: Distribution of Administration Delays (n=404)

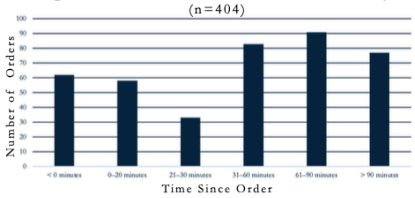


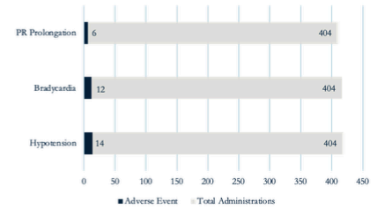
Table 3: Order-to-Administration Summary

Total Orders	404
Time range	-57 to 422 min
Mean delay	60.82 min
Median delay	47.5 min

Table 4: Administration Delay Breakdown

Number of doses with delay (>0 min)	342 (85%)
% Administered within 20 minutes	120 (30%)
% Delay > 30 minutes	251 (62%)
% Delay > 60 minutes	168 (42%)
% Delay > 90 minutes	77 (19%)

Figure 3: Adverse Event Incidence



Discussion

Baseline IVPB lacosamide administration showed substantial delays, with order-to-administration times up to 422 minutes, a mean of ~61 minutes, and 42% of doses delayed >60 minutes. Only 30% of doses were given within 20 minutes and 38% within 30 minutes, reflecting workflow inefficiencies driven by on-demand compounding, nurse retrieval from pharmacy, and controlled-substance documentation, which affects timely seizure management.

Adverse events (AEs) were infrequent and mild across all doses. Among 404 doses, 14 hypotension, 12 bradycardia, and 6 PR-interval prolongation events were identified, most present before administration. No events required discontinuation, and only one post-dose intervention (a fluid bolus) occurred, with additional boluses given before administration. Because results do not adjust for baseline abnormalities, concomitant medications, or comorbidities, the true incidence of drug-related AEs is likely even lower.

Limitations
- True delays may be underestimated because pharmacy pre-prepared anticipated standing orders.
- Operational factors (nurse workload, patient acuity, competing priorities) were not controlled.
- Minor documentation lag may have introduced slight timing inaccuracies, though overall delay patterns are likely unchanged.

Conclusion

- Frequent delays and low clinically significant AE rates with IVPB lacosamide support transitioning to IVP administration to reduce operational barriers without compromising safety.
- A follow-up study will assess safety and operational impact after IVP implementation.

Disclosures and References

1. Lacosamide. Lexi-Drugs. UpToDate Lexidrug. UpToDate Inc. Accessed September 8, 2025.
2. Spangler JR, Young S, Carr DR, Finoli L. Intravenous push lacosamide: Successful implementation and patient outcomes across a health system. Am J Health Syst Pharm. 2024;81(Supplement_5): S171-S179.doi:10.1093/ajhp/zxae202

Authors have no conflicts of interest to disclose.

Evaluating Unfractionated Heparin Management Using Activated Partial Thromboplastin Time (APTT) at a Community Teaching Hospital

Gianna Traenkner, PharmD; Diana Um, PharmD; Krissia Melgar, PharmD, BCPS
The Valley Hospital, Paramus, NJ

Background

- Heparin is a commonly utilized anticoagulant in the hospital setting due to its rapid onset, short half-life, and reversibility.[1] Despite these advantages, maintaining therapeutic efficacy while minimizing the risk of bleeding requires close monitoring and dose adjustments based on activated partial thromboplastin time (aPTT) values.
- Achieving a therapeutic aPTT within 24 hours of heparin initiation has been associated with improved clinical outcomes, including a reduction in thromboembolic recurrence and mortality.[2]
- At The Valley Hospital, unfractionated heparin remains a key therapeutic option for indications such as venous thromboembolism, atrial fibrillation, and acute coronary syndromes.
- The time required to achieve a therapeutic aPTT in this patient population has not yet been systematically evaluated.

Objective

To evaluate the rate and time to achieve therapeutic aPTT in adults receiving UFH at The Valley Hospital and to characterize the incidence of subtherapeutic and supratherapeutic aPTT ranges.

Methods

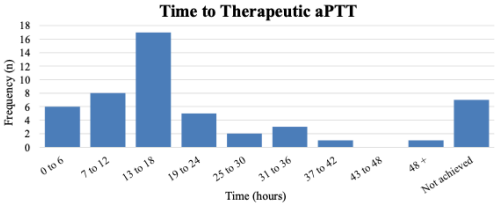
- Single-center, retrospective chart review of EHR data from July 1, 2025, to September 30, 2025. 481 patient UFH orders were identified; after applying exclusion criteria, 135 orders remained for assessment. 50 patients were randomly selected for detailed analysis.
- **Inclusion Criteria:**
  - Age ≥18 years
  - Continuous UFH infusion ≥24 hours
- **Exclusion Criteria:**
  - Missing aPTT data
  - Documented coagulopathy
  - Heparin allergy
  - History of HIT
- **Data Collection:**
  - Laboratory: All aPTT levels with corresponding timestamps, hemoglobin levels
  - Medication: Initial UFH infusion rate, rate adjustments (type and timing), time to therapeutic aPTT, heparin MAR notes
- **Primary Outcome:**
  - Time to therapeutic aPTT
- **Secondary Outcomes:**
  - Percentage achieving therapeutic aPTT at 24 and 48 hours
  - Number of dose titrations
  - Frequency of subtherapeutic and supratherapeutic aPTT
  - Total duration of therapy
  - Incidence of minor and major bleeding

BASELINE CHARACTERISTIC	VALUE
Average Age (years)	72.4
Average Weight (kg)	85.5
Protocol Used (number of patients)	DVT/PE - NO Bolus (7), DVT/PE with Bolus (13), ACS/AFIB - NO Bolus (14), ACS/AFIB with Bolus (15), Risk for Bleeding (1)
Anticoagulation Use (number of patients)	Apixaban (10) Enoxaparin (1), Rivaroxaban (1)
Patient Location During Infusion (number of patients)	Cardiac/Tele (18) , Bariatric (11), Oncology (6), Geriatrics (4), Neuro Med/Surg (3), IMC (3), CCU Stepdown (3), Med Surg (1), Ortho (1)

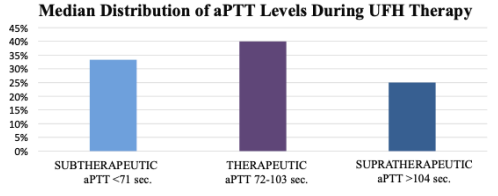
Results

OUTCOME OF INTEREST	RESULT
Time to Therapeutic aPTT (hours)	Median: 14.13 (7.53–19.78) Average: 16.27 ± 10.52
Total Duration of Therapy (hours)	Median: 51.73 (42.40–71.02) Average: 64.61 ± 38.32
Number of Titrations	Median: 3 (2-4) Average: 3.48 ± 2.62

Time to Therapeutic aPTT



Median Distribution of aPTT Levels During UFH Therapy



Incidence of Bleeding: ISTH Criteria

- Any bleeding included hematuria, evidence of GI bleed, hemoptysis, hematoma, or ecchymosis.
- Both of the events classified as major bleeding occurred post-operatively while UFH was held, but the order was still active.
- Although 11 patients experienced a hemoglobin drop ≥2 g/dL, most remained above dangerous thresholds and stabilized without intervention, as evidenced by only three patients requiring transfusion while receiving UFH.
- No fatal bleeding events occurred, and two patients required protamine reversal due to suspected or confirmed heparin-associated bleeding concerns.

OUTCOME CATERGORY	NUMBER OF EVENTS
Any Bleeding	4
Major Bleeding	2
Non-major Bleeding	2
Fatal Bleeding	0
Critical-site Bleeding	0
Hemoglobin Drop ≥2 g/dL	11
Transfusion ≥2 Units	3
Heparin Reversal	2

Discussion

- An average time to therapeutic anticoagulation of 16.27 hours is a notable finding, as rapid attainment of therapeutic anticoagulation is closely associated with improved clinical outcomes.
- At approximately 12 hours (after the second aPTT measurement), 38% of aPTTs were therapeutic, 36% were supratherapeutic, and 26% were subtherapeutic.
- Among 11 patients who experienced a hemoglobin drop of ≥2 g/dL, 3 required transfusions, and 2 received protamine reversal.
- 20 patients were treated for DVT/PE, 29 for ACS/A Fib, and 1 under a bleeding-risk protocol.
- The median distribution of aPTT during treatment was evaluated by assessing changes in infusion rates (increases, decreases, or no changes).
- 72% of patients reached the target aPTT range within 24 hours, increasing to 84% by 48 hours. 7 patients (14%) never achieved therapeutic range during UFH infusion.
- Study limitations include reliance on electronic documentation, which may not fully capture dosing or monitoring details in this retrospective chart review; a three-month study window, limiting assessment of long-term trends; and a single-center design, which may restrict generalizability.

Conclusion

- This analysis provides insight into UFH management trends across various units at a community teaching hospital and evaluates how variability in aPTT control affects patient outcomes and real-world safety and efficacy.
- With only 38% of patients achieving therapeutic aPTT by the second measurement, and nearly equal proportions being subtherapeutic (26%) and supratherapeutic (36%), it is evident that initial dosing often does not reliably produce therapeutic anticoagulation. This highlights the importance of continuous monitoring during UFH infusion.
- The balanced distribution between sub and supratherapeutic levels suggests that future protocol adjustments to initial infusion rates could reduce early variability and increase the proportion of patients reaching therapeutic aPTT more quickly.

References

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Evaluating the Impact of Integrating a Compounding Pharmacy Within a Healthcare System: Expanding Pharmacy Services

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Introduction

In March 2024, Valley Health System implemented a compounding pharmacy to further expand its pharmacy services. Compounded medications are often required in both inpatient and ambulatory care settings to provide individualized therapies when commercially manufactured products are unavailable, not appropriate based on patient-specific factors, or affected by drug shortages.

Objective

The objective of this study is to evaluate the impact of integrating a compounding pharmacy within a healthcare system, focusing on therapeutic areas served and perceived patient outcomes.

Methods

Design: Single-center, retrospective descriptive analysis combining data from provider survey responses with pharmacy dispensing data. Survey data was collected in November 2025; dispensing data was extracted for all compounded prescriptions dispensed between April 1, 2025, and August 31, 2025.

Inclusion Criteria:
- **Provider Survey:**
  - The Valley Health System–affiliated prescribers who have ordered at least one compounded medication through the Valley Health System Compounding Pharmacy
  - Completed distributed survey
- **Pharmacy Dispensing Data:**
  - All compounded prescriptions dispensed by the Valley Health System Compounding Pharmacy from April 1, 2025 to August 31,2025

Exclusion Criteria:
- **Provider Survey:** Prescribers who are not affiliated with the Valley Health System
- **Pharmacy Dispensing Data:** All compounded prescriptions in the established timeframe were included

Data Collection:
- **Provider Survey**
  - Provider role in patient care/specialty, awareness of compounding services, perceived value and impact of compounded prescriptions, ability to meet patient-specific needs, and challenges experienced when prescribing compounded medications extracted using Likert-scale and free-text responses
- **Pharmacy Dispensing Data:**
  - Compounded drug name, dosage formulation, patient-specific need/indication obtained using the pharmacy dispensing software, CareTend

Primary Outcome (Provider Survey): Provider perceived impact of compounded medications

Secondary Outcomes (Pharmacy Dispensing Data): Distribution of compounded prescriptions by total number, patient-specific need/indication, and dosage formulation

Results

Figure 1: Specialties Represented Among Surveyed Providers (n=27)

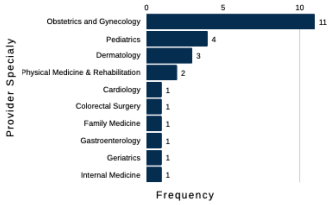


Table 1: Provider Reported Challenges When Utilizing Compounding Pharmacy

Challenge	Freqeuncy
Workflow/ordering	12
Cost concerns for patients	8
Limited awareness of available formulations	10
No challenges experienced	8

Figure 2:Provider Perceived Impact of Compounded Medications Ability to Meet Patient-Specific Needs (n=27)

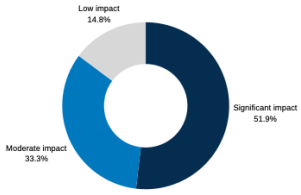


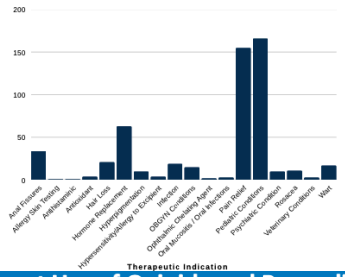
Table 2:Distribution of Compounded Prescriptions By Volume

Order Source	Total Prescriptions	Percent
Ambulatory	489	90.72%
Central Fill	50	9.28%
Total	539	100%

Table 3: Distribution of Compounded Prescriptions by Dosage Formulation (n=539)

Dosage Form	Total # of Prescriptions
Cream	146
Oral (unspecified)	89
Suspension	71
Capsule	70
Ointment	50
Solution	39
Gel/Transdermal	17
Vaginal Cream/Suppository	16
Enteral Suspension/Solution	16
Topical (unspecified)	14
Nasal Spray	4
Powder	3
Foam	2
Troche	1
Intravenous	1

Figure 3:Distribution of Compounded Prescriptions By Therapeutic Indication (n= 539)



Discussion

Surveyed providers reported a high perceived clinical impact of the newly implemented compounding pharmacy, indicating that compounded formulations support their ability to meet patient-specific needs.The diversity of specialties represented demonstrates broad utilization across the health system, which is also demonstrated through the large number of unique therapeutic indications and dosage formulations dispensed.

Providers also identified several challenges when utilizing the compounding pharmacy. The most frequently reported concern involved workflow or ordering processes, followed by limited awareness of available formulations and patient cost considerations.

Addressing Provider-Reported Challenges:
- Workflow & Ordering Optimization
  - Providing prescribers with standardized ordering forms and further education on ordering process to clinical staff
- Patient Cost Mitigation Strategies:
  - The compounding pharmacy pricing model enables a low dispensing fee that is often as affordable as the standard retail prescription copays, reducing the financial burden for patients who require customized therapies.
- Increasing Provider Awareness of Available Formulations
  - Strengthening collaboration with compounding pharmacists and clinical staff to tailor therapy to meet patient-specific needs

Conclusion

- The integration of a centralized compounding pharmacy into the Valley Health System has demonstrated meaningful clinical impact, supporting individualized therapy, improving access, and delivering value across a wide range of specialties.
- In the future, the compounding pharmacy plans to further expand its services with the implementation of total parenteral nutrition compounding using automated compounding devices.

Disclosures and References

Authors have no conflicts of interest to disclose.

The Valley Hospital
Valley Health System
Pharmacy

Identifying Co-Prescribing Patterns and Barriers of Concurrent Use of Opioids and Benzodiazepines in the Outpatient Setting

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Background

The concurrent use of opioids and benzodiazepines increases the risk of overdose due to the overlapping mechanism on respiratory depression and sedation. Between 2018 and 2023, 14% of fatal opioid overdose deaths involved benzodiazepine use.[1]

The Center for Disease Control (CDC) guidelines for pain management urge caution in weighing the risks versus benefits in each patient when co-prescribing these medications.[2] In patients with chronic pain and anxiety, the CDC recommends considering cognitive behavioral therapy, specific antidepressants, or other nonbenzodiazepine medications approved for anxiety over benzodiazepines.[2]

Both medication classes include a Boxed Warning for increased risk of profound sedation, respiratory depression, coma, and death when the medications are used concomitantly.

The Centers for Medicare and Medicaid Services (CMS) created a measure called "Concurrent Use of Opioids and Benzodiazepines" (COB) defined as "the percentage of members with overlapping days' supply for an opioid and a benzodiazepine for 30 or more cumulative days."[3]

Objective

Primary Objective:
- Level of confidence providers feel in different deprescribing scenarios

Secondary Objectives:
- Average days' supply and days between fills of opioids and benzodiazepines
- Percentage of opioid and benzodiazepines prescribed on an as needed basis versus scheduled dosing
- Diagnosis for prescribing opioids

Methods

Single-center retrospective chart review of encounters from January 1 to September 30, 2025, combined with an anonymous email survey distributed to providers within the health system.

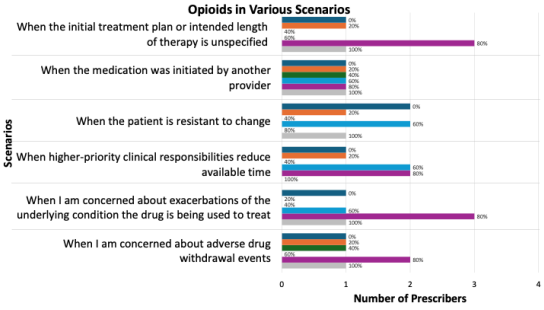
	Inclusion Criteria	Exclusion Criteria
Patients	• 18 years or older • ColigoCare providers • ≥ 2 opioid prescriptions with a cumulative days' supply of 15 days or more	• ≥ 2 benzodiazepine prescriptions filled with 30 or more overlapping days' supply with opioids
Providers	• Prescribed an opioid or benzodiazepine to a patient included in the study	• Not employed by Valley Health System

Data Collection:
- Data was provided by Medicare Advantage and retrospective chart review was completed to determine prescribing trends
- An anonymous survey was sent to providers utilizing Microsoft Forms

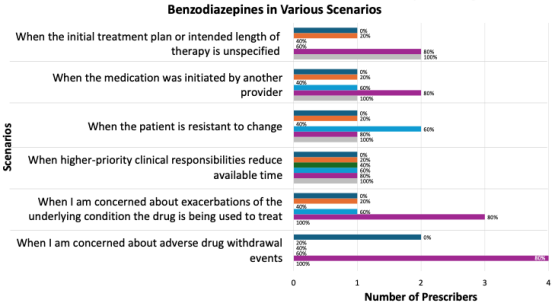
Results

Primary

Prescribers' Level of Confidence on a Scale of 0 to 100 in Deprescribing Opioids in Various Scenarios



Prescribers' Level of Confidence on a Scale of 0 to 100 in Deprescribing Benzodiazepines in Various Scenarios

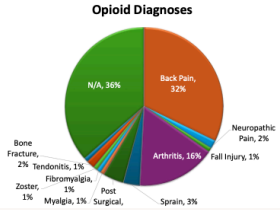


Secondary

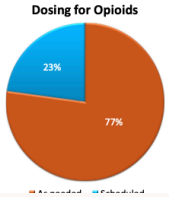
Average Days Supply and Time Between Refills

	Opioids	Benzodiazepines
Days Supply	16.95 (SD = 12.63)	19.53 (SD = 12.02)
Time Between Refills	16.09 (SD = 25.02)	26.26 (SD = 19.36)

Opioid Diagnoses



As Needed Versus Scheduled Dosing for Opioids



Discussion

Out of 29 prescribers that received the deprescribing survey, a total of 6 (20%) responded.

Prescribers reported being most confident in deprescribing opioids when they are concerned about exacerbations of the underlying condition (80% confidence level ± 15%) and least confident when the patient is resistant to change (40% confidence level ± 55%).

For benzodiazepine deprescribing, providers were most confident when there were concerns of withdrawal or when the intended treatment plan is unclear (80% confidence level ± 60%) and least confident when higher clinical responsibilities reduce available time (40% confidence level ± 55%).

The most common diagnoses for opioid use were back pain and arthritis. The average days' supply of opioids was 16.95 (SD = 12.63) and benzodiazepines was 19.54 days (SD = 12.02). Time between opioid refills was 16.09 days (SD = 25.01), and for benzodiazepines was 26.26 days (SD = 19.36).

Limitations
- 6 prescribers surveyed, the sample size is insufficient to capture the true average confidence level in the health system
- All prescribers are not employed by Valley Health System and chart notes were not available for review

Conclusion

Ensuring safe use of opioids and benzodiazepines is an interdisciplinary responsibility of all healthcare professionals. The responses from the providers offers limited insight into confidence levels within the health system but can be utilized to create trainings on safe opioid prescribing and identifying opportunities to de-escalate therapy when possible. The overall prescribing trends showed that providers follow best practices by prescribing opioids for "as needed" relief and limiting the days supply of opioids and benzodiazepines.

Disclosures and References

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