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JHOP
JOURNAL OF HEMATOLOGY ONCOLOGY PHARMACY®

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SPECIAL FEATURE

SIXTH ANNUAL ISSUE of HOPA ABSTRACTS 2026

EDITORIAL

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MARCH 2026 VOLUME 16, SPECIAL FEATURE

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Hope Springs Eternal: A New Year of HOPA Annual Conference Research Abstracts

Courtney C. Cavalieri, PharmD, BCOP; Michael Williams, PharmD, BCOP

Dr Cavalieri is HOPA Annual Conference Abstract Review Subcommittee Chair, 2025-2026, and is a Clinical Oncology Pharmacist in GI, Thoracic, and Head and Neck Malignancies, and PGY2 Oncology Residency Coordinator, Huntsman Cancer Institute, University of Utah, Salt Lake City. Dr Williams is HOPA Annual Conference Abstract Review Subcommittee Vice Chair, 2025-2026, and Clinical Pharmacy Specialist–Malignant Hematology/Transplant and Cellular Therapy, Aurora St. Luke's Medical Center, Advocate Health, Milwaukee, WI.

We are pleased to welcome you to this special issue of the *Journal of Hematology Oncology Pharmacy* (*JHOP*), the official publication of the Hematology/Oncology Pharmacy Association (HOPA). This special issue, the *Annual Issue of HOPA Abstracts*, comprises abstracts presented at the 22nd HOPA Annual Conference, held March 25-27, 2026, in New Orleans, LA. The abstracts featured in this issue showcase the significant and impactful research submitted by HOPA members and nonmembers, encompassing hematology/oncology pharmacists, other healthcare professionals, and scientists from the United States and abroad.

The Annual Conference Abstract Review Subcommittee of HOPA is composed of HOPA member volunteers and includes representation on subjects by experts in various hematology/oncology subspecialties and practice areas. The subcommittee is tasked with establishing and upholding policies and procedures related to the submission criteria for research abstracts and is responsible for evaluating completed, late-breaking, and trainee research submissions. The submitted research encompasses a wide range of clinical/translational and practice management topics, including benign or malignant hematology, solid tumors, blood and marrow transplant/cellular therapy, supportive care, medication safety, pharmacist roles, quality improvement, and the value of cancer care. In accordance with its policies and procedures, the Annual Conference Abstract Review Subcommittee selects abstracts from the completed research and late-breaking submissions for poster presentation and platform presentation at the HOPA Annual Conference. In addition, the subcommittee selects abstracts from the trainee research submissions for Trainee Top 10 Posters for eposter presentation at the HOPA Annual Conference. Subcommittee members also serve as judges to select the best poster from the Trainee Top 10 Posters presentations, moderators for platform presentations, and evaluators for all trainee posters.

This year, 41 completed and late-breaking research abstracts were submitted for consideration, all of which underwent review and scoring by designated members of the HOPA Annual Conference Abstract Review Subcommittee, followed by deliberation among the full subcommittee, where all abstracts undergo a thorough critique regarding their scientific merit and relevance to HOPA members and attendees of the HOPA Annual Conference. Abstracts selected as late-breaking research must also demonstrate a significant impact on hematology/oncology pharmacy practice that warrants prompt review and dissemination.

This year's platform presentations showcase research on the following topics: CMV reactivation with bispecific antibodies in multiple myeloma; hybrid observation model for bispecific T-cell engager tarlatamab (HOME); safety of shortened post-infusion observation times for pertuzumab and ado-trastuzumab emtansine: a retrospective and prospective analysis; and treatment persistence and dose modifications in US patients with HR+, HER2-, node-positive, early breast cancer treated with adjuvant abemaciclib.

HOPA members and nonmembers alike who contributed abstracts are leaders in hematology/oncology pharmacy practice and integral members of the healthcare community, optimizing cancer care for the patients we serve. The research showcased at the HOPA Annual Conference exemplifies HOPA's commitment to education, the advancement of professional practice, collaboration, innovation, and clinical excellence. We hope that you will find enlightenment and inspiration from the exceptional abstracts featured in this issue. We look forward to receiving abstract submissions from YOU in the future!

North American Enrollment in Clinical Trials: An Emerging Issue for Regulatory Approval

Ming-Hei Tai, PharmD, BCOP

Dr Tai is Oncology Pharmacist, Corewell Health William Beaumont University Hospital, Royal Oak, MI.

On May 20, 2025, the FDA had a meeting of its Oncologic Drug Advisory Committee (ODAC).[1] The meeting reviewed STARGLO, a phase 3 clinical trial that compared glofitamab plus gemcitabine and oxaliplatin with rituximab plus gemcitabine and oxaliplatin in patients with relapsed or refractory diffuse large B-cell lymphoma.[1] In a surprising vote, ODAC voted 8 to 1 against the applicability of the STARGLO trial's results to the US population.[2]

The main issue presented to ODAC was that although the study demonstrated an overall survival (OS) benefit, only 25 North American patients were enrolled in the trial.[1] In patients from the Asian region (excluding Australia), the median progression-free survival (PFS) was 20.4 months for glofitamab plus gemcitabine and oxaliplatin versus 2 months for rituximab plus gemcitabine and oxaliplatin.[1] In the rest of the world, the median PFS was 9.2 months for glofitamab plus gemcitabine and oxaliplatin versus 7.8 months for rituximab plus gemcitabine and oxaliplatin. In the Asian region, the median OS was not estimable for glofitamab plus gemcitabine and oxaliplatin versus 8.2 months in rituximab plus gemcitabine and oxaliplatin.[1] In the rest of the world, the median OS was 21.2 months for glofitamab plus gemcitabine and oxaliplatin versus 27.8 months for rituximab plus gemcitabine and oxaliplatin.[1] Even when excluding the OS data, which could be confounded by subsequent therapy, the pooled non-Asian patient data (ie, in United States, Europe, Australia) found glofitamab plus gemcitabine and oxaliplatin did not have significantly longer PFS than with rituximab plus gemcitabine and oxaliplatin.[1]

The Asian population had more lenalidomide exposure and only 2 of the 131 patients previously received CAR T therapy compared with 19 of 143 patients from the rest of the world.[1] In the United States, CAR T therapy is standard of care second- or third-line therapy, whereas there is limited or no access to CAR T therapy in Asia[3] Was this an explanation for why PFS was so much longer in the Asian region compared with the rest of the world? For the patients who received previous CAR T therapy, glofitamab plus gemcitabine and oxaliplatin (N=13) and rituximab plus gemcitabine and oxaliplatin (N=8) had nearly identical PFS rates of 8.4 months and 7.8 months, respectively.[4] Is there no difference in outcomes in countries with wide access to CAR T? ODAC ultimately voted against the applicability of STARGLO to a US population.[2] Based on the available data, ODAC could not conclude with certainty that glofitamab plus gemcitabine and oxaliplatin was superior to rituximab plus gemcitabine and oxaliplatin in US patients.[2]

On July 17, 2025, ODAC met again, this time regarding the DREAMM-7 and DREAMM-8 trials.[5] Both trials examined different combinations of belantamab mafodotin with other agents for the treatment of multiple myeloma. This time, ODAC voted 5 to 3 against the risk-benefit profile of the DREAMM-7 trial and 7 to 1 against the risk-benefit profile of the DREAMM-8 trial.[6] A key issue discussed was that it was difficult to interpret the risk-benefit profile of belantamab mafodotin because of low US enrollment.[6] The United States, for example, travels the longest distance per capita in cars, trucks and motorcycles.[7] It is possible that the ocular adverse events could be more impactful on a US population, as patients would be unable to drive if they cannot see. Less than 5% of the patient population in both trials was from the United States, and even fewer of the patients were Black, even though 20% of patients with multiple myeloma are Black.[6] The control arm in the DREAMM-7 trial,

which consisted of patients receiving daratumumab plus bortezomib and dexamethasone, was also considered an inferior control arm, because the study enrolled patients without previous exposure to immunomodulatory drugs but did not add them to the control arm.[5] The combination of daratumumab, bortezomib, lenalidomide, and dexamethasone was superior to daratumumab plus bortezomib and dexamethasone in a phase 3 trial.[8]

These decisions come as we are seeing decreasing proportions of US patients in oncology clinical trials.[9] It is not unusual to see multinational trials that have ≤10% of the clinical trial population originate from the United States.[10] The FDA must decide whether the primary end point would still apply to the US population based on small trial subgroups. The recent decisions from the FDA and ODAC suggest that a lack of US representation could prevent a therapy from being approved.

Clinical trials that are submitted for FDA approval must do more to recruit patients in the United States so the FDA and US clinicians can better assess the efficacy and safety of experimental agents in US patients. If not, there is a real risk that new drug approvals could be delayed or denied. Here are several suggestions for trial design changes that could help improve US clinical trial enrollment.

Improved Control Arms

Multinational trials often must consider the therapies available in every country to determine the appropriate control arm. However, this often leads to a substandard control arm for US patients, even if the control arm may be appropriate for a multinational trial. For example, second-generation Bruton tyrosine kinase (BTK) inhibitors are the most prescribed BTK inhibitors for chronic lymphocytic leukemia in the United States.[11] However, in many Central and Eastern European countries, these second-generation BTK inhibitors are not reimbursed.[12] Fam-trastuzumab deruxtecan, which is recommended for the treatment of HER2-low breast cancer in the United States, is not recommended for use in patients with HER2-low breast cancer in the United Kingdom.[13,14]

US patients may not want to risk being randomized to a substandard control arm, and it may be unethical for trial investigators in the Unites States to randomize patients to a substandard control arm.[15] This can lead to low clinical trial enrollment in the United States. Clinical trials may need to strengthen their control arms to enroll more US patients. Innovative trial design, such as varying the control arm depending on the country, could be considered. In the DeLLphi-304 trial, for example, the control arm varied depending on the patient's country of enrollment.[16]

Crossover Trial Design

The accelerated approval program in the United States allows drugs to reach market based on surrogate end points from single-arm trials.[17] This is a double-edged sword, because although this allows US patients to access novel treatments faster, it can affect clinical trial enrollment. If a novel agent is available commercially through accelerated approval, some patients may want the guarantee of receiving a novel agent versus having the risk for being randomized to the control arm and never receiving the new therapy. This would affect trials involving that novel agent, as well as other trials that are investigating agents with similar mechanisms of action.

Crossover trial design, in which patients who are randomized to the control arm of a trial are allowed to cross over to the experimental arm after disease progression, could help mitigate this issue. First, this trial design maintains equipoise for clinical trials after accelerated approval of a drug, because the single-arm trials used for accelerated approval do not address crossover. Second, this trial design gives patients who are randomized to the control arm the opportunity to still receive the experimental agent. Giving every patient the chance to receive the experimental agent may help maintain patients' interest in a clinical trial.

Multiple Experimental Arms

Clinical trials are not limited to 1 control arm and 1 experimental arm. Although trials with multiple experimental arms can be more difficult to design, there are benefits. One benefit is that having multiple experimental arms in a trial allows the testing of multiple hypotheses. Patients are more likely to be randomized to an experimental arm, which could encourage US patients to enroll in a trial, and these trials may generate comparative data between experimental arms, thereby producing new hypotheses.

Platform trials, such as the STAMPEDE trial in prostate cancer, can enroll patients faster and answer more questions than typical clinical trials.[18]

Broader Inclusion Criteria

Recently, the *Journal of Clinical Oncology* encouraged authors to improve trial representativeness and have broader inclusion criteria.[19] Clinical trials often have a homogenous, relatively healthy population, which makes it easier to detect an effect from the experimental arm. However, that may also limit patient enrollment in clinical trials. Expanding inclusion criteria could increase clinical trial participation in the United States and make the trial more applicable for patient populations that are often excluded from clinical trials. It may make more sense, for example, to use a geriatric assessment instead of a simple age cutoff in clinical trials to enroll older adults who are otherwise healthy.

In summary, US patient representation in clinical trials has been declining over time. This issue has caused ODAC and the FDA to question the applicability of some clinical trials to a US population. Clinical trials seeking approval from the FDA may need to make changes in their trial design to increase US enrollment.

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Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR01

Evaluation of a Biosimilar Conversion in an Academic Medical Center Outpatient Infusion Center

Presenting Author: Sidney Keisner, PharmD, BCOP, University of Arkansas for Medical Sciences, Little Rock, AR

BACKGROUND: To capture the projected savings associated with biosimilar agents, the University of Arkansas for Medical Sciences underwent biosimilar conversion to maximize their use. Preferred formulary biosimilars (PFBs) were chosen based on cost and reimbursement factors, and the conversion was implemented in phases for each product. The first phase involved changing the order set product defaults in the electronic medical record.

OBJECTIVE: The primary aim of the analysis was to assess the impact of the first phase of biosimilar conversion in the outpatient setting at our institution. Pre- and postimplementation comparisons were conducted. The end points were utilization rates of the new PFBs, markers of reimbursement, acquisition costs, and the reasons PFBs were not used.

METHODS: Formulations of bevacizumab, rituximab, and trastuzumab were included. End points were analyzed in pre- and postimplementation time periods, which were defined as 18 months before and after implementation with a buffer to avoid transition periods. Cost benefit was calculated from an institutional perspective as expected revenue divided by acquisition cost. To control for underlying cost trends, the preimplementation cost for each product was applied to drug administrations in the postimplementation period. For products used post implementation only, the cost observed in the first quarter of the postimplementation period was applied to all subsequent drug administrations. Drug administrations associated with medication assistance programs, open accounts, global payment agreements, and nononcology indications were excluded.

RESULTS: Compared with the preimplementation period, the use of PFBs significantly increased in the postimplementation period (bevacizumab, 1.5% vs 56.4%; rituximab, 7.5% vs 77.8%; trastuzumab, 3.6% vs 43.4%; $P<.001$ for all changes). The average cost benefit of each drug, regardless of formulation, significantly increased (bevacizumab, 2.08 to 2.19; rituximab, 4.17 to 5.26; trastuzumab, 3.00 to 4.73; $P<.001$ for all changes). The average acquisition cost per dose decreased in the postimplementation period, and the most common reasons PFBs were not used included incomplete order set conversion and payer preferences.

CONCLUSION: In the first phase of implementation, we observed a significant increase in the use of PFBs with improved financial indicators. The most common reasons PFBs were not used reflected incomplete implementation and expected payer preferences. Limitations of the analysis include changes in acquisition costs over time, payer preferences for PFBs, and grandfathering of nonpreferred products, all of which may lead to underestimation of the actual impact of biosimilar conversion in the postimplementation period.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR02

Outcomes of Supportive Care Versus Pharmacologic Intervention for the Management of CRS in Relapsed or Refractory Multiple Myeloma Treated With BCMA- and GPRC5D-Directed Bispecifics

Presenting Authors: Victoria Nachar, PharmD, BCOP, University of Michigan, Ann Arbor, MI, and James Davis, PharmD, BCOP, The Medical University of South Carolina, Charleston, SC

BACKGROUND: Cytokine release syndrome (CRS) frequently occurs with BCMA- or GPRC5D-directed bispecific antibodies. Current guidelines (International Myeloma Working Group, mSMART) recommend dexamethasone and/or tocilizumab for low-grade CRS, although the evidence is limited.
OBJECTIVE: To evaluate the safety and efficacy of supportive care alone versus pharmacologic intervention with dexamethasone and/or tocilizumab for CRS management.
METHODS: This retrospective study included 555 patients with relapsed or refractory multiple myeloma from 7 US academic centers that initiated elranatamab, teclistamab, or talquetamab by March 2025. Premedications and step-up dosing (SUD) were per the prescribing information. Adverse event management followed institutional standards. Supportive care included antipyretics, hydration, and/or oxygen. Pharmacologic intervention included tocilizumab (8 mg/kg; maximum, 800 mg) and dexamethasone (4-20 mg per dose). CRS and immune effector cell-associated neurotoxicity syndrome (ICANS) were graded per American Society for Transplantation and Cellular Therapy criteria.
RESULTS: Of 555 patients, 36 received elranatamab, 308 teclistamab, and 211 talquetamab. CRS occurred in 55% (grade 1, 38%; grade 2, 15%; grade ≥3, 1.8%), with a median duration of 1 day. The incidence of ICANS was 15%. CRS was managed with supportive care in 87 (28%) patients and with pharmacologic intervention in 219 (72%) patients using dexamethasone (n=68), tocilizumab (n=85), or both (n=66). Supportive care consisted of acetaminophen (90%), hydration (30%), and oxygen (5%). In the pharmacologic intervention group, 71% received acetaminophen (P<.001), 45% hydration (P=.017), and 16% oxygen (P=.017). The median number of dexamethasone doses was 5 (range, 1-34) and of tocilizumab was 1 (range, 1-5). A total of 29 patients received prophylactic tocilizumab; 52% had CRS, mostly grade 1; and 87% were managed with supportive care. ICANS occurred in 45% of patients who received dexamethasone and tocilizumab. The baseline characteristics were similar between the groups. Supportive care patients had more grade 1 CRS (92% vs 61%; P<.001), less grade 2 CRS (8% vs 35%; P<.001), and shorter CRS duration (1.3 days vs 1.8 days; P=.003) than pharmacologic intervention patients. The rates of dose delay (33% vs 36%; P=.304), recurrent CRS (26% vs 32%; P=.306), and hospitalization duration (median, 9 days for both; P=.809) were similar for the supportive care and pharmacologic intervention cohorts. Recurrent CRS in all groups was at the same or lower grade, except for 1 patient who received dexamethasone and tocilizumab and had grade 1 CRS with SUD 1 and grade 2 CRS with SUD 2. The median progression-free survival for both the supportive care and pharmacologic intervention groups was 10 months (P=.83), and the median overall survival was 22.9 months and 17.3 months, respectively (P=.11).
CONCLUSION: Supportive care alone demonstrated similar outcomes to pharmacologic intervention for low-grade CRS, particularly grade 1, which supports its role as a safe, effective initial management strategy that may limit the need for additional intervention.

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Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR03

From Diagnosis to Decision-Making: Black Patient and Caregiver Perspectives on Lung Cancer Care and Support Needs

Presenting Author: Shanada Monestime, PharmD, BCOP, GO2 for Lung Cancer, San Carlos, CA

BACKGROUND: Lung cancer is the leading cause of cancer death in the United States. Black communities, compared with other marginalized groups, have the highest mortality rates, driven by disproportionate late-stage diagnoses, barriers to biomarker testing, and limited opportunities for clinical trial participation. Yet, the voices of Black patients and caregivers remain underrepresented, because most studies have concentrated on populations with a comparatively lower burden.

OBJECTIVE: To explore barriers and perceptions related to clinical trials, biomarker testing, and supportive care needs among Black adults diagnosed with or caring for someone with lung cancer.

METHODS: We conducted a mixed-methods descriptive study in Washington, DC, and Baton Rouge, LA, which are 2 regions with a high lung cancer burden and marked racial disparities, where Black residents have incidence and mortality rates approximately 1.5 to 2.9 times higher than White residents. Eligible participants were aged ≥18 years, self-identified as Black, and had lung cancer or were caregivers of such individuals. Semi-structured virtual interviews incorporated narrative inquiry and structured ranking exercises to capture preferences related to decision-making, clinical trials, and support needs. Transcripts were analyzed in ATLAS.ti using an inductive approach, and the ranking data were summarized descriptively with mean scores calculated to identify priority concerns.

RESULTS: A total of 12 participants were included (50% patients and 50% caregivers; 75% female; 92% diagnosed at stage III-IV). Three central themes were identified in the narrative analysis. First, participants described delays in diagnoses and fragmented care driven by dismissal of symptoms and insurance-related barriers. Second, most had limited awareness of biomarker testing and reported it as never explained or offered. Third, perceptions of clinical trials were mixed, with interest in participation tempered by mistrust, fear of adverse events (AEs), and unclear provider communication. The most urgent concerns identified by ranking exercises included understanding treatment options (mean, 2.25), managing AEs (mean, 3.41), and improving provider communication/self-advocacy (mean, 4.41). One-on-one guidance from a dedicated health professional (mean, 1.42) and access to a 24-hour, 7-day helpline (mean, 3.0) were ranked as the most valuable support formats.

CONCLUSION: This study highlights critical gaps in timely diagnosis, education on biomarker testing and clinical trials, and provider communication for Black adults diagnosed with or caring for someone with lung cancer. Pharmacists can be leveraged to deliver one-on-one guidance, trusted education, and navigation support, offering a pathway to reduce disparities and improve equity in lung cancer care.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR04

Safety of Live-Attenuated MMR Vaccination in Patients With Multiple Myeloma Receiving Daratumumab After Autologous Stem-Cell Transplantation

Presenting Author: James A. Davis, PharmD, BCOP, The Medical University of South Carolina, Charleston, SC

BACKGROUND: Antibodies for vaccine-preventable infections are significantly reduced after autologous stem-cell transplantation (ASCT). However, because of the risk of infection, live-attenuated vaccinations, such as the measles-mumps-rubella (MMR) vaccine, are contraindicated in immunocompromised patients, including patients with multiple myeloma who have undergone ASCT within the previous 2 years or those who are receiving antibody-based treatment. As data from the PERSEUS, SWOG 1803, and GMMG-HD7 trials mature, incorporation of anti-CD38 antibodies after ASCT may become increasingly adopted into practice.

OBJECTIVE: We conducted a multicenter, retrospective study to evaluate the safety of MMR vaccination in patients with multiple myeloma receiving daratumumab after ASCT.

METHODS: A total of 5 academic centers contributed data on patients who received MMR vaccination while receiving daratumumab after ASCT. MMR vaccinations were administered at the discretion of the treating oncologist. Vaccine titers were not checked as this is not routine practice at participating centers. Safety outcomes included adverse events after vaccination, such as infectious complications, confirmed infections, and general malaise.

RESULTS: Of the 41 patients included, the median age was 65 years (range, 47-85 years). The median previous lines of therapy was 1 (range, 1-3). The median IgG level was 482 mg/dL, and 26% of patients received intravenous immunoglobulin at the time of vaccination. All patients received a previous ASCT at a median of 4.4 months before starting daratumumab. Most patients (59%) received daratumumab combined with lenalidomide (52%) or pomalidomide (7%), with the remaining patients receiving in combination with a proteasome inhibitor (7%) or as monotherapy (34%). In all, 95% of patients received monthly daratumumab at the time of vaccination. Initial MMR vaccination was administered at a median of 20.2 months of daratumumab after ASCT. The median time from ASCT to vaccination was 25.2 months. The most common adverse events were acute sinusitis (5%) and COVID-19 (5%), which occurred at a median of 8 days after vaccination. Rash, headache, and arthralgias were each reported in 1 patient. None of the patients had an active MMR infection after vaccination. There were no hospitalizations or deaths after vaccination.

CONCLUSION: Our findings suggest MMR vaccination in immunocompromised patients with multiple myeloma receiving daratumumab 24 months after ASCT is safe. Although this was a limited sample size, there were no vaccine-related MMR infections after vaccination. MMR vaccination is important for these patients because of the rising rates of vaccine hesitancy in the general population and the recent increase in confirmed measles cases in the United States.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR05

A Real-World Analysis of Filgrastim and Biosimilars for Engraftment After Hemopoietic Cell Transplantation: Balancing Efficacy and Economics

Presenting Authors: Dennis Marjoncu, PharmD, BCOP, and Kori Holman, PharmD, BCOP, Methodist Cancer Institute, Memphis, TN

BACKGROUND: Hematopoietic cell transplantation (HCT) is a consolidative treatment for hematologic malignancies, with granulocyte colony-stimulating factors, such as filgrastim, facilitating neutrophil engraftment. Biosimilars have gained traction in solid-tumor malignancies as a result of their cost-effectiveness, but real-world evidence of their impact after HCT remains limited.

OBJECTIVE: To evaluate the efficacy and cost implications of filgrastim biosimilars in neutrophil engraftment after HCT.

METHODS: A retrospective analysis was conducted at Methodist University Hospital from 2015 to 2023, evaluating filgrastim to filgrastim-sndz after a formulary switch in September 2020. Data were collected for patients receiving reference filgrastim or filgrastim-sndz post-HCT and stratified by transplant type (autologous vs allogeneic). The primary outcome was neutrophil engraftment time, with secondary outcomes including length of stay (LOS), incidence of engraftment syndrome, bone pain, and cost-savings.

RESULTS: A total of 41 patients received filgrastim-sndz and 188 patients received filgrastim. The baseline characteristics were primarily similar between the groups, including median age (55 years vs 59 years), male sex (56% vs 55%), and indication for HCT of multiple myeloma being the most common (37% vs 44%). There was a difference in the type of allogeneic donor (P=.014), with more mismatched unrelated donors in the filgrastim-sndz arm (11% vs 0%). In the autologous HCT group, filgrastim-sndz recipients had a significantly shorter median time to neutrophil engraftment (6 days vs 8 days; P<.001) and LOS (13.5 days vs 18 days; P=.038). The total cumulative dose per patient was also lower in the filgrastim-sndz group (2880 mcg vs 3840 mcg; P<.001), providing a 56% cost-savings (P<.001). Bone pain was not significantly higher in the filgrastim-sndz group (18% vs 7%; P=.096). In the allogeneic HCT group, there were no significant differences in median time to neutrophil engraftment (9 days vs 10 days; P=.514), LOS (28 days vs 25 days; P=.169), or cumulative dose per patient (6240 mcg vs 4800 mcg; P=.330), with a 24% cost-savings, although this was not statistically significant. The rates of engraftment syndrome, bone pain, graft failure, and dose escalation were comparable between the groups.

CONCLUSION: This study supports the real-world efficacy of filgrastim-sndz in post-HCT neutrophil engraftment, demonstrating comparable clinical outcomes to reference filgrastim while also providing cost-savings opportunities, particularly in autologous HCT.

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Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR06

Impact of an Oncolytic Pharmacist Prescription Verification Queue at an Academic Medical Center

Presenting Authors: Kelsea Seago, PharmD, BCOP, and Christine Barrett, PharmD, BCOP, WVU Medicine, Morgantown, WV

BACKGROUND: Pharmacy practice standards for oral oncolytic management were published by the Hematology/Oncology Pharmacy Association in 2018. These standards set forth a best practice recommendation that oral oncolytic safety and quality standards should be consistent with intravenous treatment standards.[1] Recognizing an opportunity to increase the safety of oral oncolytic prescribing based on this best practice recommendation, clinical pharmacists at West Virginia University Cancer Institute's Mary Babb Randolph Cancer Center (MBRCC) sought to implement an oncolytic prescription verification queue to ensure clinical pharmacist review of all oral oncolytic prescriptions on prescribing. The impact of clinical pharmacist management on oral oncolytics is well documented from clinical and specialty pharmacy perspectives.[2-4] However, the use of an oncolytic prescription verification queue in an academic medical center with embedded clinical oncology pharmacists is a novel workflow.

OBJECTIVES: The primary objective was to determine the impact of implementing an oncolytic prescription verification queue by quantifying the number of prescriptions verified and the resulting pharmacist interventions. The secondary objectives were to further characterize the pharmacist interventions into categories and identify specific medications with the highest intervention rates.

METHODS: The verification queue was implemented in October 2023. Initially, the queue allowed retrospective review of prescriptions sent to external pharmacies, prospective review of prescriptions sent to internal pharmacies, and captured prescriptions sent from MBRCC's outpatient hematology/oncology clinics, as well as 2 inpatient oncology services at J.W. Ruby Memorial Hospital. In March 2024, a process for documentation of pharmacist interventions resulting from the verification queue was standardized within the electronic medical record (EMR). Next, in June 2025, prescriptions for oral oncolytics sent on discharge from any inpatient service also began filtering into a queue for pharmacist verification. Metrics from the queue and associated pharmacist interventions were collected using a custom-built workbench report within the EMR as well as a Tableau dashboard. Descriptive statistics were used for analysis.

RESULTS: The verification queue resulted in a total of 7368 prescription verifications from October 2023 through August 2025, equaling approximately 320 verifications per month. From March 2024 through August 2025, there were 119 documented pharmacist interventions, equaling approximately 7 interventions per month. Interventions were most often classified as coordination of care (29%) and clarification of sig (23%). More than half of all interventions were documented on prescriptions for lenalidomide (34%) or capecitabine (23%).

CONCLUSION: The implementation of a novel oncolytic prescription verification queue resulted in thousands of pharmacist-verified oncolytic prescriptions and more than 100 documented pharmacist interventions in 23 months.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR07

Dexamethasone Versus Tocilizumab for Management of Talquetamab-Induced Cytokine Release Syndrome in Patients With Relapsed/Refractory Multiple Myeloma: A Multicenter, Retrospective Study

Presenting Author: Donald Moore, PharmD, BCPS, BCOP, DPLA, FCCP, FASHP, Atrium Health Levine Cancer Institute, Charlotte, NC

BACKGROUND: Talquetamab is a GPRC5D-directed bispecific antibody approved for the treatment of relapsed or refractory multiple myeloma (RRMM). Cytokine release syndrome (CRS) occurred frequently (approximately 76%) with talquetamab in the MonumenTAL-1 study. The International Myeloma Working Group guidelines recommend tocilizumab for low-grade CRS (grade 1 or 2).

OBJECTIVE: To compare the efficacy of dexamethasone versus tocilizumab for talquetamab-induced CRS management.

METHODS: A multicenter, retrospective study was conducted across 7 academic medical centers that included patients who received commercial talquetamab for RRMM. All patients received premedications and a talquetamab step-up dose (SUD) schedule per the prescribing information. CRS was graded using the American Society for Transplantation and Cellular Therapy criteria. The outcomes included the incidence and severity of CRS, recurrent CRS rate, overall response rate, and healthcare resource utilization.

RESULTS: A total of 211 patients were included. Patients received a median of 6 previous lines of therapy (range, 2-14). Talquetamab was used as bridging therapy in 53 (35%) patients. A SUD schedule of days 1, 3, 5, and 7 was used most often (63%). CRS occurred in 129 (61%) patients and was primarily low grade (grade 1, 43%; grade 2, 16%; grade 3 or 4, 1%). In all, 46 (36%) patients and 42 (33%) patients received dexamethasone and tocilizumab, respectively, as their initial CRS management and were included in the primary efficacy outcome analysis. The median dose of dexamethasone was 10 mg (range, 8-16 mg). In the dexamethasone group, 72% and 24% of patients had grade 1 and grade 2 CRS, respectively. CRS resolved with either a single dexamethasone dose (46%), repeated dexamethasone dosing (22%), or subsequent tocilizumab treatment (20%). In the tocilizumab group, CRS resolved with a single dose, repeat doses, or subsequent dexamethasone treatment in 71%, 12%, and 17% of patients, respectively. Recurrent CRS after a subsequent SUD was more common with initial dexamethasone (50% vs 15%; P=.005); however, all repeat events were low grade and resolved with dexamethasone and/or tocilizumab. The overall response rates (86% vs 90%; P=.74) and rates of very good partial responses or better (52% vs 56%; P=.83) were similar between the dexamethasone and tocilizumab cohorts. For healthcare resource utilization, there were no significant differences between the dexamethasone and tocilizumab cohorts for hospitalization duration during SUD (9 days vs 10 days; P=.34) or intensive care unit admission during SUD (7% vs 9%; P=.70).

CONCLUSION: Although more patients had recurrent CRS with dexamethasone than with tocilizumab, subsequent events were low grade and generally manageable with repeated dexamethasone doses. Dexamethasone could be an alternative treatment option to tocilizumab for low-grade talquetamab-induced CRS.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR08

Phase 3 Study to Evaluate Efficacy and Safety of Pemivibart, an IgG1 Monoclonal Antibody, for the Prevention of COVID-19 (CANOPY): Subset Analysis of Participants With Chronic Lymphocytic Leukemia

Presenting Author: Kirthana Beaulac, PharmD, Invivyd, New Haven, CT

BACKGROUND: Pemivibart (VYD222) is a recombinant human monoclonal IgG1λ antibody that targets the SARS-CoV-2 spike protein receptor binding domain, thereby inhibiting virus attachment to the human angiotensin converting enzyme 2 receptor on host cells. The FDA issued pemivibart an emergency use authorization (EUA) for pre-exposure prophylaxis of COVID-19 in certain adults and adolescents with moderate-to-severe immune compromise in March 2024. Data supporting this EUA was from CANOPY (NCT06039449), a phase 3 study that evaluated the efficacy and safety of pemivibart for the prevention of COVID-19.

OBJECTIVE: To describe a subset of participants in the single-arm, open-label cohort A of CANOPY who were considered to have significant immune compromise because of chronic lymphocytic leukemia (CLL).

METHODS: All cohort A participants received 4500 mg intravenously of pemivibart on day 1 and received a second dose at the 3-month visit. Primary objectives: (1) Safety and tolerability of pemivibart, which were assessed as the incidence of treatment-emergent adverse events (TEAEs), including serious AEs, (2) Evaluation of protection against symptomatic COVID-19 based on serum viral neutralizing antibody titers against SARS-CoV-2 after receiving pemivibart. An exploratory end point evaluated the incidence of reverse transcription polymerase chain reaction (RT-PCR)-confirmed symptomatic COVID-19, including COVID-related hospitalization and all-cause mortality.

RESULTS: CANOPY enrollment began in September 2023 when the XBB-related and JN.1 variants of COVID were dominant. A total of 306 immunocompromised participants were enrolled in cohort A. Of those, 29 (9.5%) were included in the CLL subset, of whom the median age was 66 years (range, 39-83 years), 15 (51.7%) were female, and 28 (96.6%) were White. In all, 9 (31%) participants were receiving antineoplastic agents, including venetoclax (n=3), acalabrutinib (n=2), and ibrutinib (n=2). All participants were vaccinated for COVID-19 before enrollment, having received a median of 6 vaccinations (range, 2-7 vaccinations). A total of 18 (62.1%) participants had TEAEs; none of the TEAEs were considered serious or caused study drug discontinuation. Of 29 participants, 5 (17.2%) had AEs that were related to pemivibart, all of which were considered mild. Of these 5 patients, 4 participants had possible symptoms of an infusion-related reaction within 24 hours of dosing: 1 event each of tachycardia and fatigue after dose 1, and 1 event each of nausea and headache after dose 2. Among all cohort A–enrolled participants, the composite incidence of RT-PCR–confirmed symptomatic COVID-19 was 3.7% through day 180. None of the participants within the CLL subset were among these RT-PCR–confirmed symptomatic COVID-19 cases.

CONCLUSION: Pemivibart was well tolerated in a subset of adults with CLL. None of the study patients had COVID-19 in the 6 months after the administration of pemivibart.

Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR09

Safety of Shortened Postinfusion Observation Times for Pertuzumab and Ado-trastuzumab Emtansine: Retrospective and Prospective Analyses

Presenting Author: Jennifer Hutchinson, PharmD, BCOP, Massachusetts General Hospital, Boston, MA

BACKGROUND: Pertuzumab and ado-trastuzumab emtansine (T-DM1) are HER2-targeted antibodies used for the treatment of breast cancer. Clinical trials report infusion-related reactions (IRRs) of 21% and 1.6%, respectively, which are significantly lower than with trastuzumab (40%). Despite this, FDA-recommended postinfusion observation times remain prolonged at 60 minutes and 90 minutes for initial doses of pertuzumab and T-DM1, respectively, and at 30 minutes for subsequent doses. Limited data exist on IRR characterization and the safety of reduced observation times, leading to potentially unnecessary monitoring and chair time.

OBJECTIVES: To evaluate the incidence and severity of IRR with pertuzumab and T-DM1 and to assess the safety of reduced observation times.

METHODS: We conducted a retrospective chart review of patients with breast cancer who received ≥1 dose of pertuzumab or T-DM1 between January 2022 and February 2025. The primary outcome was the incidence of IRRs within the first 3 doses. The secondary outcomes included the timing, management, and severity of IRRs per the Common Terminology Criteria for Adverse Events, version 5.0. A prospective review of patients who received treatment between March 2025 and August 2025 evaluated the incidence and severity of IRRs within the first 3 doses after the implementation of reduced observation times (30 minutes for initial doses, none for subsequent doses).

RESULTS: A total of 242 patients (69% received pertuzumab and 31% received T-DM1) were included in the initial retrospective review. For pertuzumab, 2 (1.2%) patients had a reaction after receiving the first dose and 1 (0.6%) patient each had a reaction after the second and third doses. The average grade of reaction was 2 (range, 1-3). The median time to reaction onset was 100 minutes (range, 80-120 minutes) from the start of the first infusion. No reactions occurred during the observation period for subsequent doses. For T-DM1, 5 (6.7%) patients reacted with the first dose; none of the patients had IRRs with subsequent doses. The average grade of IRR was 1 (range, 1-2). The median time to IRR onset was 86 minutes (range, 10-180 minutes) from the start of the first infusion. In our prospective review, a total of 58 patients (60% receiving pertuzumab and 40% receiving T-DM1) were included. None of the patients in either arm had IRRs with shortened observation times, resulting in a combined estimated chair time-savings of 47 hours per month.

CONCLUSION: In real-world practice, pertuzumab- and T-DM1–associated IRRs were infrequent, mild, and occurred primarily during infusion rather than in the observation period. Given the low incidence of IRR, we were able to safely implement standardized, shortened observation times, which were well tolerated and have resulted in significant chair time-savings. These findings support the re-evaluation of the current observation times to guide future practice standards.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR10

Real-World Incidence of Infusion-Related Reactions With Sacituzumab Govitecan and Opportunities for Premedication De-Escalation

Presenting Author: Jennifer Hutchinson, PharmD, BCOP, Massachusetts General Hospital, Boston, MA

BACKGROUND: Sacituzumab govitecan is a Trop-2–directed antibody–drug conjugate approved for the treatment of metastatic breast cancer. In clinical trials, infusion-related reactions (IRRs) occurred in 35% of patients, with 2% having grade 3 or 4 adverse events. Accordingly, the prescribing information recommends administering the first infusions over 180 minutes and subsequent infusions over 60 to 120 minutes, each followed by a 30-minute observation period. Premedication with antipyretics and H1/H2 antagonists are required, with corticosteroids added if previous infusion reactions occurred. Despite notable trial-reported IRR rates, real-world data on incidence and timing are limited, and guidance for premedication de-escalation is lacking.

OBJECTIVES: To characterize the incidence and presentation of IRRs in patients receiving sacituzumab govitecan compared with clinical trial data and to evaluate the feasibility of premedication de-escalation.

METHODS: We conducted a retrospective chart review of patients aged ≥18 years with breast cancer who received at least the first dose of sacituzumab govitecan at Mass General Brigham Cancer Institute between April 2020 and May 2025. The primary outcome was the incidence of IRRs. The secondary outcomes included the timing and severity of IRRs per the Common Terminology Criteria of Adverse Events, version 5.0 and the tolerability of standard premedication de-escalation.

RESULTS: A total of 85 patients were included in this observational analysis. The median age was 61 years (range, 25-82 years), and 90.6% received ≥2 previous lines of therapy. Patients received a median of 7 doses of sacituzumab govitecan (range, 1-112 doses) over a median of 70 days (range, 1-1216 days). None of the patients had IRRs while receiving treatment. All the patients received medication per the FDA-recommended initial infusion rate of 180 minutes. For subsequent doses, the median infusion time was 120 minutes (range, 60-180 minutes), with 98.7% of patients receiving an infusion in ≤120 minutes. At no point were the infusion rates extended for better tolerability. Most patients also received the appropriate premedications, including diphenhydramine (98.8%), famotidine (97.6%), and acetaminophen (97.6%), along with dexamethasone (98.8%) already included in their antiemetic regimen. During treatment, 8.2% of patients discontinued famotidine, 5.9% discontinued acetaminophen, 4.7% discontinued diphenhydramine, and 2.4% discontinued dexamethasone. The median number of doses to premedication de-escalation was 3 (range, 1-14).

CONCLUSION: In this real-world cohort, no IRRs were observed with sacituzumab govitecan, which suggests greater tolerability than in clinical trials. Some patients tolerated premedication de-escalation, with de-escalation occurring as early as dose 3. Given the low incidences of IRRs, these findings support further investigation into developing protocols to safely reduce premedication requirements and potentially shorten observation times.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR11

Imlunestrant With or Without Abemaciclib in Advanced Breast Cancer: Safety Analyses From the Phase 3 EMBER-3 Trial

Presenting Author: Emily Barrett, MSc, Eli Lilly and Company, Indianapolis, IN

BACKGROUND: Imlunestrant is a next-generation, brain-penetrant, oral selective estrogen receptor degrader. The EMBER-3 trial (NCT04975308) in patients with ER-positive, HER2-negative advanced breast cancer and disease progression on or after aromatase inhibitor therapy showed significant improvement in progression-free survival with imlunestrant (400 mg once daily) over standard of care (SOC; fulvestrant or exemestane) among patients with *ESR1* mutations, as well as with imlunestrant (400 mg once daily) plus abemaciclib (150 mg twice daily) over imlunestrant in all patients, regardless of *ESR1* mutation status.[1] The detailed safety analyses are presented.

OBJECTIVES: To characterize the incidence, timing, duration, and management of the most common treatment-emergent adverse events (TEAEs) of imlunestrant monotherapy and in combination with abemaciclib in the EMBER-3 trial and to assess the safety profile of imlunestrant in different age-groups.

METHODS: The safety population included all patients who received ≥1 dose of study treatment. Analyses included the incidence, severity (Common Terminology Criteria for Adverse Events, version 5.0), management, and outcomes of common TEAEs.

RESULTS: The safety analyses included 859 patients who received imlunestrant (n=327), SOC (n=324), or imlunestrant plus abemaciclib (n=208). The incidence of any AEs (imlunestrant, 83%; SOC, 84%; imlunestrant plus abemaciclib, 98%), grade ≥3 TEAEs (imlunestrant, 17%; SOC, 21%; imlunestrant plus abemaciclib, 49%), and serious AEs (imlunestrant, 10%; SOC, 12%; imlunestrant plus abemaciclib, 17%) was similar between the imlunestrant and SOC arms and was higher in the combination arm. The most common any-grade AEs with imlunestrant were diarrhea (21%), nausea (17%), and fatigue (23%), and with imlunestrant plus abemaciclib were diarrhea (86%), nausea (49%), and neutropenia (48%); most of the AEs were grade 1. Of the imlunestrant, SOC, and imlunestrant plus abemaciclib groups, 18%, 9%, and 50%, respectively, had grade 1 diarrhea, and 14%, 8%, and 31%, respectively, had grade 1 nausea. Of these groups, 3%, 3%, and 28%, respectively, had grade 2 diarrhea, and 3%, 5%, and 15%, respectively, had grade 2 nausea. In the imlunestrant and imlunestrant plus abemaciclib cohorts, 0.3% and 8%, respectively, had grade ≥3 diarrhea and 0.3% and 2%, respectively, had grade ≥3 nausea. There were no cases of grade ≥3 diarrhea or nausea in the SOC group. The dose reduction rates were 2% with imlunestrant and 39% with imlunestrant plus abemaciclib, and the discontinuation rates as a result of AEs were low (4% and 6%, respectively).

CONCLUSION: Imlunestrant had a favorable safety profile, similar to SOC, with predominantly grade 1 AEs. The safety of imlunestrant plus abemaciclib was consistent with the known abemaciclib profile, without additive AEs. The AEs were manageable with supportive medications and/or dose adjustments, resulting in few treatment discontinuations in all arms. Imlunestrant alone or with abemaciclib provides a safe, tolerable, all-oral targeted therapy option for patients with ER-positive, HER2-negative advanced breast cancer.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR12

Assessment of Thromboprophylaxis Eligibility in Patients With Cancer at a Community Hospital

Presenting Authors: Christopher Clayton, PharmD, BCOP, and Sol Atienza, PharmD, BCOP, Aurora St. Luke's Medical Center, Milwaukee, WI

BACKGROUND: Cancer is a risk factor for venous thromboembolism (VTE). VTE is a major cause of morbidity and mortality, which can lead to hospitalizations, substantial patient care needs, and increased cost for patients with cancer. The incidence of VTE within 1 year of a cancer diagnosis is approximately 8%.[1] Various risk-scoring tools have been evaluated to assess VTE risk based on clinical and laboratory factors. The current guidelines recommend the Khorana scoring tool to determine which patients with cancer are candidates for primary VTE prophylaxis.[2]

OBJECTIVES: To conduct a gap analysis to assess patients diagnosed with VTE and to determine which of those patients were eligible for VTE prophylaxis using the Khorana scoring tool.

METHODS: This retrospective chart review was conducted at a 900-bed community hospital between August 1, 2024, and September 1, 2025. The inclusion criteria were patients with cancer with a discharge diagnosis of deep vein thrombosis or pulmonary embolism who were actively receiving chemotherapy or immunotherapy. The exclusion criteria were patients with multiple myeloma, acute leukemia, myeloproliferative neoplasm, primary or metastatic brain tumor, carcinoma in situ, history of or risk for bleeding, having a cancer diagnosis during the current admission, and no chemotherapy or immunotherapy within the past 6 months. The data collection included malignancy, prechemotherapy platelet and leukocyte count, hemoglobin or red blood cell growth factor use, body mass index, anticoagulant medications, and the date of chemotherapy. The patients were evaluated using the Khorana score and were categorized as having a high risk for VTE when scores were ≥2.

RESULTS: A total of 93 patients were identified as diagnosed with cancer and VTE through diagnosis-related group codes on discharge. In all, 33 patients were excluded. Of the 60 patients assessed, 20 (33.3%) had Khorana scores of ≥2, showing eligibility for VTE prophylaxis. None of these patients were receiving VTE prophylaxis. A total of 7 patients were receiving anticoagulation for other reasons (eg, atrial fibrillation, previous VTE). Of the 20 patients, the cancer types were pancreas/lung (each 20%), gynecologic/bladder (each 10%), lymphoma/testicular (each 5%), and other (breast, head and neck, anal, chronic lymphocytic leukemia, colon, 30%). As per the Khorana score criteria, 20% of the cancers were very high risk and 50% were high risk, and the platelet, hemoglobin, leukocyte, and body mass index parameters were met in 25%, 55%, 30%, and 45% of patients, respectively.

CONCLUSION: The results confirm that primary VTE prophylaxis is underutilized. These data will be used as a baseline measurement to justify an electronic platform that identifies patients with cancer who are eligible for VTE prophylaxis in the clinical setting.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR13

Prostate-Specific Antigen Response With Darolutamide Plus Androgen-Deprivation Therapy in Patients With Metastatic Hormone-Sensitive Prostate Cancer in ARANOTE

Presenting Author: Kirollos Hanna, PharmD, BCPS, BCOP, FACCC, FAPO, FHOPA, Mayo Clinic College of Medicine, Rochester, MN, and Minnesota Oncology, St. Paul, MN

BACKGROUND: In the ARANOTE study,[1] darolutamide plus androgen-deprivation therapy (ADT) reduced the risk for radiologic progression or death versus placebo plus ADT by 46% (hazard ratio [HR], 0.54; 95% confidence interval [CI], 0.41-0.71; *P*<.0001) in patients with metastatic hormone-sensitive prostate cancer (mHSPC).
OBJECTIVE: To report ARANOTE's post-hoc analyses correlating prostate-specific antigen (PSA) response with overall outcomes and by baseline PSA level.
METHODS: Patients with mHSPC were randomized 2:1 to darolutamide 600 mg twice daily plus ADT or to placebo plus ADT. The achievement of undetectable PSA (<0.2 ng/mL) at any time was evaluated. Radiologic progression-free survival, the time to metastatic castration-resistant prostate cancer (mCRPC), and the time to PSA progression were evaluated in patients who did or did not achieve PSA <0.2 ng/mL and by baseline PSA group, which was defined as lower than the first quartile (quartile 1, <4.1 ng/mL), between quartile 1 and the median (4.1-<21.3 ng/mL), and equal to or higher than the median (≥21.3 ng/mL).
RESULTS: In 669 patients (darolutamide, 446; placebo, 223), the median baseline PSA was 21.4 and 21.2 ng/mL, respectively. More patients receiving darolutamide achieved a PSA of <0.2 ng/mL (62.6%) versus those receiving placebo (18.5%). Patients achieving a PSA of <0.2 ng/mL at any time in both groups had lower ECOG performance status and baseline PSA values than those who did not. Patients receiving darolutamide achieved a PSA of <0.2 ng/mL versus those who did not have lower risk for radiologic progression or death (81%, HR, 0.19; 95% CI, 0.13-0.27), progression to mCRPC (84%, HR, 0.16; 95% CI, 0.12-0.23), and PSA progression (92%, HR, 0.08; 95% CI, 0.05-0.12), which indicates a durable response. Regardless of the baseline PSA group, more patients receiving darolutamide versus placebo achieved a PSA of <0.2 ng/mL at any time, with higher rates of PSA of <0.2 ng/mL in patients with a low baseline PSA of <4.1 ng/mL (darolutamide, 87.6% vs placebo, 43.5%; 4.1-<21.3 ng/mL, 64.8% vs 14%; ≥21.3 ng/mL, 50.5% vs 10.2%). Patients receiving darolutamide with a low baseline PSA (<4.1 ng/mL) had a longer time to radiologic progression or death, time to mCRPC, and time to PSA progression versus patients with a baseline PSA of ≥21.3 ng/mL; outcomes were similar for patients with a baseline PSA of 4.1 to <21.3 ng/mL versus ≥21.3 ng/mL. Safety with darolutamide was consistent with previous data and was independent of PSA response or baseline PSA. Patients who received darolutamide had lower rates of discontinuation as a result of TEAEs than patients who received placebo.
CONCLUSION: More patients receiving darolutamide achieved undetectable PSA at any time versus placebo, regardless of baseline PSA. Undetectable PSA response with darolutamide correlated with clinical benefit in terms of radiologic progression or death and longer times to mCRPC and PSA progression.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR14

Pilot Study to Establish Incidence and Characteristics of Patients at Risk for Symptomatic Hyperammonemia Secondary to Recombinant *Erwinia* Asparaginase

Presenting Authors: Catherine Martin, PharmD, and Alexis Kuhn, PharmD, BCOP, Mayo Clinic, Rochester, MN

BACKGROUND: Asparaginase therapy is essential for the treatment of pediatric acute lymphoblastic leukemia (ALL) and lymphoblastic lymphoma. For patients who had hypersensitivity to a first-line *Escherichia coli*–derived drug, the standard of care is to transition to an *Erwinia*-derived drug. All asparaginase drugs exert their antileukemic effects by enzymatically breaking down asparagine to aspartic acid and ammonia. Elevations in ammonia levels are anticipated during asparaginase treatment; however, symptomatic hyperammonemia is not expected. Recombinant *Erwinia* asparaginase is relatively new to the market, and there have been several case reports of symptomatic hyperammonemia with this specific formulation.

OBJECTIVES: The primary objective of this prospective study was to establish the incidence of symptomatic hyperammonemia secondary to recombinant *Erwinia* asparaginase and to determine if a larger multicenter trial was warranted. An additional objective was to identify the potential risk factors for symptomatic hyperammonemia.

METHODS: This single-center, prospective trial received institutional review board approval. Funding was provided by the Mayo Clinic Clinical and Translational Science Award (grant number: UL1TR002377) and the Mayo Clinic Department of Pharmacy. All patients who received treatment by the pediatric hematology/oncology team at our institution who were receiving recombinant *Erwinia* asparaginase were eligible for the study. Patients were excluded if they were aged <1 year at study entry. Enrolled participants had a baseline plasma ammonia level obtained, followed by twice-weekly ammonia levels while receiving recombinant *Erwinia* asparaginase. Aside from baseline, all ammonia levels were trough levels measured either 48 or 72 hours after the previous dose.

RESULTS: A total of 5 patients were included, 3 of whom were male (60%). In all, 3 patients had T-cell ALL (60%), 1 patient had B-cell ALL (20%), and 1 patient had infantile B-cell ALL (20%). The median age was 5 years (range, 1-14 years). A total of 2 patients were followed for 2 courses of recombinant *Erwinia* asparaginase, and the remaining patients were followed for a single course. The mean baseline plasma ammonia level was 14.4 mcmol/L. The mean ammonia level while receiving recombinant *Erwinia* asparaginase was 157.5 mcmol/L. In all, 3 (60%) patients had symptomatic hyperammonemia with a mean ammonia level of 234.8 mcmol/L (range, 212-343 mcmol/L). The patients' symptoms included nausea (100%), fatigue (66.7%), and decreased appetite (33.3%). All 3 patients who developed symptoms were men and had T-cell ALL. The remaining 2 patients had asymptomatic hyperammonemia with a mean ammonia level of 122.2 mcmol/L (range, 55-304 mcmol/L).

CONCLUSION: Based on our small cohort, symptomatic hyperammonemia may be a common adverse event for patients receiving recombinant *Erwinia* asparaginase. Checking plasma ammonia levels is reasonable in patients who have nausea and vomiting.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR15

CMV Reactivation With Bispecific Antibodies in Multiple Myeloma

Presenting Author: Jordan Snyder, PharmD, BCOP, University of Kansas Health System, Kansas City, KS

BACKGROUND: Cytomegalovirus (CMV) reactivation is well described after allogeneic transplant and chimeric antigen receptor T-cell (CAR-T) therapies, but the implications are less well known in patients receiving bispecific antibodies (BsAbs). BsAbs have revolutionized the management of relapsed or refractory multiple myeloma (RRMM), but come with long-term adverse events, such as an increased risk for infections, including CMV.
OBJECTIVE: To evaluate the incidence of CMV reactivation in patients receiving BsAbs for RRMM.
METHODS: This multicenter, retrospective review included 555 patients who received teclistamab, elranatamab, or talquetamab. CMV reactivation was defined as any measurable CMV level. Descriptive statistics were utilized for patient and disease characteristics and for the rates of CMV reactivation. Logistic regression model was used to evaluate the risk factors for CMV reactivation.
RESULTS: In all, 308 (55%) patients received teclistamab, 36 (6%) received elranatamab, and 211 (38%) received talquetamab. The median age was 68 years (range, 32-89 years) and the median previous lines of therapy was 5 (range, 2-18), including 164 (30%) patients who received previous CAR-T. A total of 437 patients had CMV serostatus evaluated at some point during BsAb therapy, with 219 (50%) patients being CMV seropositive. Of the seropositive patients, 48 (22%) had CMV reactivation during BsAb treatment. CMV reactivation occurred in 8 (17%) patients who received dexamethasone treatment during step-up dosing, 6 (13%) patients who received tocilizumab treatment or prophylaxis, and 5 (10%) patients who received dexamethasone and tocilizumab during the step-up dose period. The median time to CMV reactivation was 1.2 months (range, 0-15.4 months) after treatment initiation. The median peak CMV was 289 IU/mL (range, 5-324,917 IU/mL). Of the 48 patients who had reactivation, 16 (33%) patients received CMV-directed therapy for a median duration of 24 days (range, 5-88 days). CMV disease occurred in 2 patients. One patient required hospitalization because of CMV reactivation, with hospitalization ongoing at time of data collection. No treatment discontinuations, interruptions, or deaths occurred from CMV. Age, the number of previous lines of therapy, previous BCMA-directed therapy, maximum-grade cytokine release syndrome, tocilizumab treatment, dexamethasone treatment, use of IVIG, and IgG levels at day 30 and day 90 were evaluated via logistic regression; none of the above factors predicted CMV reactivation.
CONCLUSION: CMV reactivation occurred in almost 25% of patients who are CMV seropositive and receiving bispecific antibodies for RRMM, with 33% of those patients requiring CMV-directed therapy. This incidence reflects the need for additional guidance for risk stratification, monitoring, and prophylactic strategies in this high-risk patient population.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR16

Two-Year Real-World Patient-Reported Outcomes in Newly Diagnosed Patients With Immune Thrombotic Thrombocytopenic Purpura After Caplacizumab Plus Therapeutic Plasmatic Exchange Treatment: A Prospective, Observational Study

Presenting Author: Jennifer Wang, PharmD, Sanofi, Cambridge, MA

Co-Authors: Laurence Pollissard, MSc, Sanofi, Gentilly, France; Jennifer Wang, MA Statistics, Sanofi, Cambridge, MA; Marco Rossetti, BSBA, and Synne Wing, MSW, EmpiraMed, A StoryCatch Partners Company, Maynard, MA

BACKGROUND: Immune thrombotic thrombocytopenic purpura (iTTP) is a rare, life-threatening autoimmune disorder that results from severe ADAMTS13 deficiency.[1] Real-world data on long-term patient-reported outcomes (PROs) and health-related quality of life (HRQOL) in iTTP remain limited.

OBJECTIVE: To describe long-term PROs in patients newly diagnosed with iTTP in the United States after hospital discharge and the first iTTP episode who received caplacizumab plus therapeutic plasmatic exchange (TPE) and immunosuppression (ie, the caplacizumab group) or standard therapy TPE plus immunosuppression (ie, the TPE group).

METHODS: This 24-month prospective, observational study planned to enroll approximately 100 adults newly diagnosed with iTTP (≥18 years) into caplacizumab (enrolled within 1 month after discharge) and TPE (enrolled within 12 months after discharge) group. The data were collected using validated instruments, including the PROMIS-Cognition Short Form 8a; Headache Impact Test-6; EQ-5D-5L; Short-Form 36 Health Survey, Version 2 (SF-36v2); Hospital Anxiety and Depression Scale; and Work Productivity and Activity Impairment Questionnaire. Descriptive analyses were conducted and presented as means (standard deviation [SD]) unless otherwise specified.

RESULTS: This analysis included 35 patients in the caplacizumab group with a mean age of 38 years (SD, 11.48). Patients were enrolled 15 (SD, 9.42) days after receiving their first dose of caplacizumab. The TPE group (n=3) was too small for meaningful analysis, and the results are not shown. From baseline to 24 months, cognitive function remained stable and slightly above the general population norms, with PROMIS T-scores improving from 52.90 (SD, 9.79) to 55.62 (SD, 8.01). QOL improved across all SF-36v2 domains, with a physical component summary score that increased from 40.12 (SD, 8.74) to 50.23 (SD, 9.46) and mental component summary score that increased from 41.68 (SD, 12.41) to 48.72 (SD, 8.98), approaching population norms. Headache severity decreased from 52.30 (SD, 8.80) to 46.25 (SD, 9.11). EQ-5D-5L health utility scores improved from 0.73 (SD, 0.24) to 0.88 (SD, 0.17). Anxiety and depression scores decreased from 9.36 (SD, 5.17) to 7.25 (SD, 4.79) and from 5.00 (SD, 3.48) to 2.75 (SD, 2.50), respectively. Over 24 months, significant improvements were observed in work productivity measures, including activity impairment that decreased from 71.11 (SD, 36.44) to 16.67 (SD, 5.77), overall productivity loss that decreased from 91.67 (SD, 7.64) to 16.67 (SD, 5.77), presenteeism that decreased from 76.67 (SD, 20.82) to 16.67 (SD, 5.77), and absenteeism that decreased from 84.00 (SD, 33.15) to 0 (SD, 0).

CONCLUSION: This study highlights improvements in PROs over 24 months in patients with iTTP receiving caplacizumab plus TPE at initial diagnosis, providing first real-world evidence of long-term QOL outcomes. However, limitations such as underrecruitment, small TPE group size, and high dropout rates prevent attributing these gains directly to caplacizumab. Larger studies that have well-matched comparator groups are needed to assess caplacizumab's impact on HRQOL in patients with iTTP.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR17

Factors Associated With Clinical Outcomes in Patients With *HER2* Mutation–Positive NSCLC Who Received Sevabertinib (BAY 2927088)

Presenting Author: Katelyn Toeniskoetter, PharmD, BCOP, Dana-Farber Cancer Institute, Boston, MA

BACKGROUND: Mutations in *HER2* occur in approximately 2% to 4% of patients with non–small-cell lung cancer (NSCLC) and are associated with unfavorable outcomes. Sevabertinib is a potent, oral, reversible HER2 tyrosine kinase inhibitor that has demonstrated durable responses and a manageable safety profile in patients with advanced NSCLC and *HER2* mutations.[1]

OBJECTIVE: Our exploratory analysis sought to assess the impact of baseline clinical characteristics and molecular alterations on treatment outcomes.

METHODS: Patients from expansion cohort D of the SOHO-01 phase 1/2 study (NCT05099172) were included in this analysis. All patients had advanced NSCLC with a *HER2*-activating mutation and had disease progression after ≥1 systemic therapy, but were naïve to HER2-targeted therapy, and received treatment with sevabertinib 20 mg twice daily. Plasma ctDNA was assessed using the Thermo Fisher Scientific Oncomine Precision Assay. *HER2* variant information and coalteration data were used to assess the correlation with investigator-assessed treatment response and outcomes.

RESULTS: Of the 44 patients who received treatment in expansion cohort D, 43 patients who had a postbaseline tumor assessment were included. At baseline, the median patient age was 62 years, 65.1% of the patients were female, 72.1% had never smoked, and 46.5% had received <2 previous lines of therapy. Treatment with <2 previous lines of therapy versus ≥2 previous lines was associated with a higher objective response rate (75% vs 69.6%, respectively), longer median duration of response (DOR; DOR, not reached vs 5.2 months, respectively), and improved median progression-free survival (PFS; PFS, not reached vs 6.7 months). *TP53* mutations were the most frequently observed coalterations and were present in 13 of 37 patients (35.1%) with detectable *HER2* ctDNA. The *HER2 Y772_A775dup* (*YVMA*) variant was associated with enhanced treatment efficacy, whereas the presence of a *TP53* coalteration was not. Multivariate analysis indicated that *TP53* and *HER2 YVMA* provide independent prognostic information. Patients lacking *TP53* coalterations and having the *YVMA* variant showed favorable responses and outcomes, similar to those who had received only 1 previous therapy.

CONCLUSION: This exploratory analysis of clinical and molecular factors in patients with *HER2* mutation–positive NSCLC indicates favorable DOR and PFS among those who received only 1 previous line of therapy or who had specific molecular characteristics. The findings underscore the importance of integrating clinical and molecular features to identify potential prognostic or predictive markers. As part of an ongoing study, these preliminary results emphasize the need for validation in a larger sample size to confirm these insights and further explore therapeutic strategies for patients with *HER2*-altered cancers.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR18

SOHO-01: Safety and Efficacy of Sevabertinib in Patients With Advanced *HER2* Mutation–Positive Non–Small Cell Lung Cancer Who Received Pretreatment but Were Naïve to HER2-Targeted Therapy or Had Not Received Any Treatment for Advanced Disease

Presenting Author: Katelyn Toeniskoetter, PharmD, BCOP, Dana-Farber Cancer Institute, Boston, MA

BACKGROUND: The potent, reversible HER2 tyrosine kinase inhibitor sevabertinib (BAY 2927088)[1] has demonstrated manageable safety and antitumor activity in patients with advanced non–small-cell lung cancer (NSCLC) with *HER2*-activating mutations.

OBJECTIVE: To report the safety and efficacy data from 2 cohorts of the ongoing, open-label, multicenter phase 1/2 SOHO-01 trial (NCT05099172).

METHODS: Patients with advanced NSCLC and *HER2*-activating mutations were enrolled and received oral sevabertinib 20 mg twice daily. Patients in expansion/extension cohort D had disease progression after receiving ≥1 systemic therapy and were naïve to HER2-targeted therapy; patients in expansion cohort F had not received any systemic therapy for locally advanced or metastatic disease. Safety (MedDRA, version 27.1 and Common Terminology Criteria for Adverse Events, version 5.0) was the primary end point; antitumor activity (RECIST, version 1.1) was a key secondary end point.

RESULTS: As of October 14, 2024, 81 patients in cohort D and 39 in cohort F received treatment. The median ages were 60 years in cohort D and 65 years in cohort F, 61.7% of patients in cohort D and 64.1% in cohort F were female, 61.7% in cohort D and 79.5% in cohort F had never smoked, and 43.2% of patients in cohort D had received ≥2 systemic therapies. All patients were analyzed for safety and efficacy; response was based on the full analysis set. Treatment-related adverse events (TRAEs) were observed in 96.7% of the patients; diarrhea was the most common TRAE leading to dose reduction in 8.3% of patients (**Table**). None of the patients discontinued sevabertinib treatment because of diarrhea, and there were no cases of interstitial lung disease. The investigator-assessed objective response rates were 59.3% (95% confidence interval [CI], 47.8-70.1) in cohort D and 59% (95% CI, 42.1-74.4) in cohort F. The disease control rates (confirmed response or stable disease for ≥12 weeks) were 84% (95% CI, 74.1-91.2) in cohort D and 84.6% (95% CI, 69.5-94.1) in cohort F. One patient in cohort D achieved a complete response.

CONCLUSION: Sevabertinib demonstrated manageable safety in both cohorts, which is consistent with previous reports. Diarrhea was the most common TRAE, but it was manageable and did not lead to treatment discontinuation. Similar response rates were observed in patients with advanced *HER2* mutation–positive NSCLC who received pretreatment but were naïve to HER2-targeted therapy and in those who received treatment in the first-line setting.

Table

	Cohort D Patients, n (%) n=81		Cohort F Patients, n (%) n=39	
TRAE	**All grades**	**Grade ≥3**	**All grades**	**Grade ≥3**
Any TRAE	78 (96.3)	31 (38.3)	38 (97.4)	8 (20.5)
Most common TRAEs occurring in ≥20% of all patients				
Diarrhea	68 (84.0)	19 (23.5)	32 (82.1)	1 (2.6)
Rash	40 (49.4)	0	22 (56.4)	0
Paronychia	20 (24.7)	0	7 (17.9)	0
Stomatitis	15 (18.5)	1 (1.2)	9 (23.1)	0
Most common TRAE leading to dose reduction				
Diarrhea	9 (11.1)	3 (3.7)	1 (2.6)	1 (2.6)

TRAE indicates treatment-related adverse event.

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Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR19

Automating Dose Rounding Within the Electronic Health Record: Impact on Drug Waste and Cost Avoidance

Presenting Author: Sarah Hogue, PharmD, St. Luke's Health System, Boise, ID

BACKGROUND: Dose rounding of injectable oncolytic agents is a well-established strategy to enhance medication safety, reduce drug waste, and optimize utilization without compromising therapeutic efficacy. At St. Luke's Health System, a standardized dose-rounding policy was built into the electronic health record (EHR) for targeted medications to automate and streamline this practice across oncology services.

OBJECTIVE: To evaluate the financial impact of EHR-enabled dose rounding for oncolytic agents by comparing prepolicy dose-rounding opportunities with actual cost-savings achieved after implementation.

METHODS: A phased EHR implementation was conducted over 6 months (April 2025-September 2025), targeting 52 high-cost injectable oncology medications. The EHR was configured to support automated dose rounding to the nearest vial size within or equal to 10% variance of the calculated dose, minimizing manual intervention and standardizing practice across providers and sites. The monthly drug cost-savings and rounding opportunities were tracked via EHR order and administration data to assess the effectiveness of the implementation.

RESULTS: From July 1, 2025, to August 31, 2025, the rounding of 34 targeted medications resulted in a total drug cost-savings of $455,092 compared with a baseline monthly savings of $73,691, with pharmacists manually rounding select orders, with an additional $123,263 in rounding opportunity identified for 18 additional EHR medication builds. Assuming similar average monthly savings, a projected annual cost avoidance using dose rounding is approximately $3.47 million. These findings demonstrate the substantial financial and operational benefits of integrating dose rounding into the EHR workflow.

CONCLUSION: EHR-enabled dose rounding of oncolytic agents at St. Luke's Health System has proved to be a successful strategy for reducing drug waste and achieving significant cost-savings. The automation of this policy within the EHR supports consistent clinical practice as well as enhances pharmacy operations and resource stewardship. Continued monitoring and expansion of this initiative may further optimize oncology medication management and support broader institutional goals for value-based care.

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Completed Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #CR20

Treatment Persistence and Dose Modifications in US Patients With Hormone Receptor–Positive, HER2-Negative, Node-Positive, Early Breast Cancer Treated With Adjuvant Abemaciclib

Presenting Author: Astra Liepa, PharmD, BS, Eli Lilly and Company, Indianapolis, IN

BACKGROUND: In patients with hormone receptor (HR)-positive, HER2-negative, node-positive early breast cancer (EBC) at high risk of recurrence, 2 years of adjuvant abemaciclib plus endocrine therapy is approved and guideline recommended. In initial real-world studies, the high rate (>85%) of treatment persistence beyond 3 months suggests that adjuvant abemaciclib is well tolerated in routine clinical practice.[1,2]

OBJECTIVE: To describe 6-month treatment persistence and dosing patterns in patients with EBC receiving abemaciclib 150 mg twice daily.

METHODS: Retrospective data were accessed from the US deidentified Flatiron Health Research Database. Adults with HR-positive, HER2-negative, node-positive EBC who received abemaciclib 150 mg twice daily from January 2022 to June 2024 were eligible. Data cutoff was December 2024. The persistence rate was the proportion of patients receiving abemaciclib ≥6 months, allowing for a ≤60-day medication gap within this period. Subgroup analyses were conducted in patients meeting the monarchE high-risk criteria regarding axillary lymph nodes (N2, N3, or N1 plus grade 3 and/or tumor ≥5 cm).

RESULTS: Of 1063 eligible patients, median age was 56 years (interquartile range [IQR], 47-65). Most had N1 (48%) or N2 (34%) disease. Median follow-up was 17.5 months (IQR, 11-25). Treatment persistence at 6 months was 75%. Most discontinuations were due to adverse events (AEs; 19%), and <1% were due to recurrence. Approximately 50% of patients (n=536) had ≥1 dose reduction. Persistence was 85% in patients with ≥1 dose reduction and 64% in those with no dose reductions. In all, 70% of patients who discontinued abemaciclib by 6 months did not have a dose reduction. Median time from the start of abemaciclib to the first dose change and/or hold was 49 days (IQR, 23-111). During the first 30 days of treatment and days 31 to 90, discontinuations due to AEs were lower in patients with dose reductions versus those with no dose reductions (0-30 days: 7% [overall], 1% [≥1 dose reduction], 12% [no dose reduction]; 31-90 days: 7% [overall], 4% [≥1 dose reduction], 10% [no dose reduction]; 91-182 days: 5% [overall], 6% [≥1 dose reduction], 5% [no dose reduction]). Persistence and use of dose reductions were similar in patients meeting the monarchE high-risk criteria.

CONCLUSION: In US clinical practice, 75% of patients who initiated adjuvant abemaciclib continued abemaciclib beyond 6 months. Treatment persistence was higher among patients with dose reductions versus those with no dose reductions, and rates of early discontinuations due to AEs were low in patients with dose reductions. Given that dose reductions in monarchE were not associated with reduced efficacy,[3] these additional real-world data support the use of early dose modifications to improve tolerability and treatment persistence for adjuvant abemaciclib in patients with high risk of recurrence.

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Completed Research: PRACTICE MANAGEMENT RESEARCH

Abstract #CR21

Operational and Financial Impact of Electronic Medical Record–Integrated Biomarker Testing Workflows on Specialty Pharmacy in Non–Small Cell Lung Cancer

Presenting Authors: Kelsey Schildknecht, PharmD, and Lauren Gilmer, PharmD, TriHealth, Cincinnati, OH

BACKGROUND: Community oncology practices face operational barriers to adopt comprehensive biomarker testing, including electronic medical record (EMR) limitations, financial toxicity, and complex payer requirements. Pharmacists serve as a bridge between molecular diagnostics, prescribers, and patients, ensuring testing compliance, optimal treatment choice, and access to costly targeted therapies as well as continued adherence through monitoring and adverse event management.

OBJECTIVE: To evaluate the practice management outcomes of integrating a precision oncology workflow with next-generation sequencing, discrete genomic reporting, and artificial intelligence (AI)-supported decision tools, with emphasis on specialty pharmacy prescribing patterns, financial outcomes, and equitable testing access.

METHODS: By August 2025, TriHealth integrated biomarker and germline testing from 12 laboratories (7 Health Level Seven, 5 Aura Practice Management) into the EMR with standardized workflows to expedite prior authorization, financial aid applications, and AI-enabled care gap identification. Outcomes from 2022 to 2025 included testing/prescribing trends, pharmacy growth, financial savings, downstream revenue, and equity in patient access to testing.

RESULTS: Implementation of the February 2024 workflow led to 100% compliance with non–small cell lung cancer (NSCLC) biomarker testing within 12 weeks, and this was sustained over a 12-month period. Biomarker positivity in advanced NSCLC was as follows: *EGFR*, 22%; *ALK*, 13%; PD-L1, 75% (February 2024-July 2025). Actionable mutations in addition to *ALK/EGFR* (eg, *BRAF* V600E, *KRAS* G12C) occurred in 7.7% of patients. A total of 91% of NSCLC patients assessed received biomarker testing within 30 days of diagnosis. From January 2024 to August 2025, targeted therapy prescriptions rose 72%, with 48% biomarker-driven, yielding $1.2 million in gross margin and 130% year-over-year growth. The system achieved $14.5 million in 340B savings in FY2025. A standardized financial assistance process eliminated out-of-pocket testing costs for 95% of patients, with 2024 data showing no biomarker testing disparities by race, zip code, or social vulnerability index.

CONCLUSION: EMR-integrated biomarker workflows improved operational efficiency, reduced financial toxicity, and drove measurable growth in specialty pharmacy prescribing and revenue. Pharmacists played a central role in bridging biomarker testing to practice management outcomes, highlighting their impact on financial sustainability and equitable receipt of optimized oncology treatment through precision oncology in the community setting.

Implementation of EMR-integrated biomarker workflows and AI-supported care gap identification significantly increased biomarker testing compliance and specialty pharmacy prescribing, improved operational efficiency, and generated substantial financial benefits while preserving equity in patient access. These findings highlight the vital role of oncology pharmacists in bridging biomarker testing with practice management to enhance precision oncology and choice of therapy using interdisciplinary healthcare teams.

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Late-Breaking Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #LB01

Oxaliplatin Desensitization—A Promising Approach for Patients With Cancer and Hypersensitivity Reactions: Real-World Experience From Vietnam

Presenting Author: Le Trang Nguyen, Vinmec Times City International General Hospital, Hai Ba Trung, Hanoi, Vietnam

BACKGROUND: Oxaliplatin is a key component of chemotherapy for gastrointestinal malignancies in both adjuvant and metastatic settings. However, hypersensitivity reactions (HSRs) can result in treatment discontinuation. Rechallenge with desensitization offers a potential strategy to maintain oxaliplatin-based therapy. Real-world data on desensitization protocols and outcomes in Vietnam remain limited.

OBJECTIVES: To characterize oxaliplatin desensitization approaches and evaluate clinical outcomes in patients who developed oxaliplatin-induced HSRs.

METHODS: This retrospective case series included patients at Vinmec Times City International Hospital (Hanoi, Vietnam) from 2022 to 2025 who experienced oxaliplatin-related HSRs and subsequently underwent desensitization. Patient demographics, desensitization protocols, and treatment outcomes were collected and analyzed.

RESULTS: In all, 10 patients were included. The mean age was 63 years. The primary diagnoses were colorectal cancer (60%), gastric cancer (30%), and rectal cancer (10%). Of these patients, 70% were treated in the metastatic setting and 30% received adjuvant treatment. FOLFOX was the most common oxaliplatin regimen associated with HSRs (90%), followed by CAPOX (10%). Initial HSRs occurred after a median of 6 cycles (range, 2-11): 30% were grade 1, 60% were grade 2, and 10% were grade 3. All patients underwent allergy evaluation, and skin prick tests were negative in all cases, whereas intradermal testing was positive in 70%. Among the 10 patients with HSRs, 7 received a 4-bag desensitization protocol, and 3 received a 3-bag protocol; 3 patients later de-escalated from 4-bag to 3-bag regimens following at least 3 successful cycles. Patients completed a median of 4 additional oxaliplatin cycles, with a median infusion duration of 6.5 hours per cycle. In all, 3 (30%) patients experienced recurrent HSRs leading to treatment termination, and 7 (70%) patients successfully completed therapy. Among these 7 patients, 2 achieved disease-free status, 3 achieved partial response, and 2 had disease progression.

CONCLUSION: This study represents one of the earliest real-world experiences of oxaliplatin desensitization in Vietnam. Our findings suggest that desensitization is a feasible strategy that enables the continuation of oxaliplatin therapy in most patients with prior HSRs. Positive intradermal testing may help to guide the desensitization protocol. Further prospective studies are warranted to optimize protocol selection and identify predictors of successful rechallenge.

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Late-Breaking Research: PRACTICE MANAGEMENT RESEARCH

Abstract #LB02

Infusion Pharmacist–Driven Romiplostim Dosing Protocol to Optimize Efficiency in an Outpatient Hematology and Oncology Cancer Center

Presenting Authors: Ashley Jones, PharmD, BCOP; Hetalkumari Patel, PharmD, BCOP; Kailee Gaines, PharmD, BCOP, University of Texas Southwestern Medical Center, Dallas, TX

BACKGROUND: Romiplostim is a thrombopoietin (TPO) receptor agonist, which increases platelet counts by binding to and activating the human TPO receptor. This TPO receptor agonist is frequently used for the treatment of immune thrombocytopenia, chemotherapy-induced thrombocytopenia, and thrombocytopenia following hematopoietic stem-cell transplant or CAR-T therapy. The prescribing information recommends using the lowest dose sufficient to maintain platelet count ≥50,000 to reduce the risk for bleeding and contains standard dose-adjustment recommendations to achieve this. Our institution initiated an "opt-in" romiplostim pharmacist-driven dosing protocol in May 2025 to increase overall efficiency within our cancer center. Before initiation of the protocol, romiplostim dose adjustments were performed by the provider or pharmacist specialist, either before a patient's infusion appointment or via pharmacist clarification with the provider on order release. Clarifications made after orders were released led to disruptions of the provider in clinic and potentially delayed administration due to the pharmacist awaiting provider response.

OBJECTIVE: To evaluate the time to verification of romiplostim orders using a pharmacist-driven lab evaluation and subsequent dose-adjustment protocol for romiplostim.

METHODS: We performed a retrospective chart review for patients receiving romiplostim 6 months following protocol implementation to evaluate the number of patients converted to pharmacist-driven dosing, the difference in verification time, and the number of doses adjusted by the provider before and following dose-adjustment protocol implementation.

RESULTS: From May to November 2025, a total of 370 doses of romiplostim were given, and of these, 131 (35.4%) were given per the dosing protocol. No significant reduction in time to order verification was observed between doses adjusted on and off protocol (13.3 minutes vs 13 minutes). However, we did note a reduction in doses adjusted by the provider for patients on protocol, with 55.2% and 33.3% of doses adjusted by the provider for patients off and on protocol, respectively.

CONCLUSION: The implementation of a pharmacist-driven romiplostim dosing protocol improved efficiency for our cancer center because it effectively shifted the workload of dose adjustment from the provider to the pharmacist. In addition, we identified numerous patients on long-term romiplostim initiated prior to the protocol implementation, representing possible missed opportunities. Although no difference in time to order verification was noted, we expect a potential reduction in chair time as more patients are transitioned to the protocol.

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Late-Breaking Research: PRACTICE MANAGEMENT RESEARCH

Abstract #LB03

Pharmacist-Led Management of Vorasidenib in Patients With Isocitrate Dehydrogenase Mutation–Positive Gliomas

Presenting Authors: Marie Noelle Bate Baiyee, PharmD; Mary Hilliger, PharmD; Bilge Parlakkilic, PharmD, Tufts Medical Center, Boston, MA

BACKGROUND: Vorasidenib was recently approved for the treatment of low-grade isocitrate dehydrogenase (*IDH*) *1* and *IDH2* mutation–positive gliomas, demonstrating higher central nervous system penetration compared with ivosidenib.[1] Increasing use of antidepressants and antiepileptic drugs has been seen in patients with low-grade gliomas.[2,3] The vorasidenib prescribing information recommends avoiding concomitant administration of cytochrome (CY) P450 1A2 inhibitors and inducers, as well as CYP3A4 substrates,[4] which presents a challenge when starting patients on vorasidenib. Pharmacists play a critical role in initiating and monitoring patients receiving oral oncology medications[5,6]; however, no established medication therapy management model exists for patients starting treatment with vorasidenib.

OBJECTIVES: To evaluate the impact of pharmacist-led interventions and characterize the types of interventions implemented in the management of patients with low-grade *IDH2* mutation–positive gliomas treated with vorasidenib.

METHODS: This single-center, retrospective study included patients with low-grade gliomas who were initiated on vorasidenib between August 2024 and October 2025. All prescriptions were held in a multistep order transmission (MSOT) queue, enabling pharmacists to perform a comprehensive medication and chart review, including assessment of drug-drug interactions (DDIs), medication reconciliation, and benefits investigations. Providers were notified of any clinically significant DDIs requiring therapy change before initiating vorasidenib. Patient education, either in person or via telephone, was completed before starting treatment. Follow-up assessments were completed every 30 days for the first 3 months and then annually. Refill prescriptions were routed through the MSOT queue, allowing pharmacists to review laboratory results, fill history, and new medications to ensure there were no new DDIs with vorasidenib. Follow-up assessments included medication reconciliations, adverse event (AE) monitoring, and adherence evaluations using the proportion of days covered (PDC) method and an adapted questionnaire.[7]

RESULTS: In all, 16 patients were screened, and 11 met the inclusion criteria. Clinically significant DDIs were identified and resolved in 82% of patients, with 55% requiring a change or discontinuation of ≥1 medication prior to initiating vorasidenib. A total of 21 medication therapy problems were identified. Of those problems, 16 were DDI checks resulting in 9 clinically significant DDIs; 3 were consultative interventions, including AE management, contraceptive counseling, and excursion data clarification. In addition, 1 was a medication access issue requiring an appeal, and 1 was a laboratory test order request. Finally, we found that 80% of patients had a PDC of >90%.

CONCLUSION: Close monitoring of patients with low-grade gliomas is vital to ensure safe, efficacious, and comprehensive care. The findings from this study highlight the critical role of pharmacist-led interventions in optimizing medication therapy management in this complex patient population.

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Late-Breaking Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #LB04

Building Real-World Evidence Through the HERO Consortium: A Pharmacist-Led Multicenter Initiative

Presenting Authors: Ila M. Saunders, PharmD, BCOP, Skaggs School of Pharmacy and Pharmaceutical Sciences, La Jolla, CA; Sarah Profitt, PharmD, BCOP, Vanderbilt University, Nashville, TN

BACKGROUND: The Hematology Research & Outcomes (HERO) Consortium, founded in 2022 by oncology pharmacists, is the first pharmacist-led, multicenter research consortium aimed at enhancing the generation of real-world evidence in hematology. As of November 2025, HERO has grown to encompass 21 member institutions with more than 40 members.

OBJECTIVE: To characterize the institutions and member demographics of the HERO Consortium, the first pharmacist-led, multicenter research collaborative in hematology.

METHODS: Institutional data were submitted through a Google Form (heroconsortium.org). A separate form collected demographic data from HERO members, and responses were analyzed using descriptive statistics.

RESULTS: The HERO Consortium includes 21 US academic institutions across 15 states, primarily teaching (95.2%) and hospital-based (71.4%) centers, with more than half (57.1%) having more than 500 inpatient beds. Most sites (52.4%) report outpatient hematology volumes exceeding 10,000 visits annually and treat >200 patients with acute leukemia per year. The geographic distribution is concentrated in the Southeast and West regions (61.9%), serving urban (85.7%) and suburban (57.1%) areas. Most serve diverse patient populations, with 90.1% reporting higher proportions of National Institutes of Health–defined racial and ethnic groups, and 66.7% serving relatively more patients from low socioeconomic backgrounds than surrounding institutions. The collective payer mix includes Medicare (100%), Medicaid (81%), and commercial insurance (95.2%). Notably, 81% of centers are 340B-eligible, and 38.1% of centers are exempt from the Medicare Prospective Payment System. All institutions perform allogeneic hematopoietic stem-cell transplants and CAR T-cell therapies, primarily in inpatient settings (85.7% and 52.4%, respectively). A total of 36 responses were received (response rate, 87.8%) from HERO members. Most members have a median of 10 years (interquartile range, 7.75-13) of post-PharmD experience, completed both PGY1 pharmacy practice and PGY2 oncology pharmacy practice residencies (94.4%), and are board-certified in oncology pharmacy (94.4%). Most members (69.4%) have prior experience participating in multicenter research and practice in inpatient and ambulatory care settings, specializing in malignant hematology (91.7%), leukemia (75%), lymphoma (50%), multiple myeloma (41.7%), cellular therapy (33.3%), and blood/marrow transplant (30.6%). Respondents allocated an average of 63.3% of their time to clinical activities, and only 27.8% of respondents reported dedicated research time.

CONCLUSION: The HERO Consortium is a pharmacist-led, multicenter research collaborative comprised of seasoned clinician-researchers with broad institutional and geographic reach. The HERO Consortium infrastructure supports the standardization of collaborative research and highlights the potential of this novel consortium to elevate the rigor and impact of pharmacist-led hematology research.

Late-Breaking Research: CLINICAL/TRANSLATIONAL RESEARCH

Abstract #LB05

Hybrid Observation Model for Bispecific T-Cell Engager

Presenting Author: Alyssa Cendagorta, PharmD, BCOP, Robert Wood Johnson University Hospital, New Brunswick, NJ

BACKGROUND: Risks of the bispecific T-cell engager tarlatamab include cytokine release syndrome (CRS) and immune effector cell–associated neurotoxicity syndrome (ICANS). As part of the FDA's accelerated approval, patients are required to be monitored in a healthcare facility after cycle 1 day 1 and day 8 doses.[1] A more recent protocol does not require hospitalization for the monitoring of CRS; rather, it recommends 6 to 8 hours of postinfusion monitoring.[2] Given that CRS occurring with tarlatamab has been characterized as mostly grade 1 and 2 in nature,[3] our institution implemented a hybrid observation model starting in August 2024.

OBJECTIVE: To characterize our experience using a hybrid oncology administration model for tarlatamab, including patient demographics, safety outcomes (American Society for Transplantation and Cellular Therapy consensus grading), and length of stay information.

METHODS: In this retrospective chart review, tarlatamab was infused in patients in an outpatient setting, and patients were subsequently observed in the inpatient unit for CRS and ICANS monitoring and management.

RESULTS: From August 2024 to October 2025, there were 19 administrations of tarlatamab using this hybrid observation model. The median age of patients was 64 years (interquartile range [IQR], 61-68) with a median length of stay of 24 hours (IQR, 23-27). A total of 8 of the 19 observation stays involved the management of CRS and/or ICANS. Only 2 observations had to be extended into full inpatient encounters. CRS of any grade was observed in 40% of patients with either of the first 2 doses. All cases of CRS were grade 1 or 2. The incidence of CRS was found to be higher with dose 1 than dose 2, at 30% versus 13%, respectively. ICANS of any grade was observed in 40% of patients with either of the first 2 doses. The incidence of ICANS was similar with dose 1 and dose 2, at 30% and 25%, respectively. There were no cases of grade 3 or 4 ICANS.

CONCLUSION: A hybrid observation model can be safely used for oncology patients receiving tarlatamab to monitor for and manage CRS and ICANS. This allows for improved patient satisfaction and the ability to appropriately charge for these ambulatory services.

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Late-Breaking Research: PRACTICE MANAGEMENT RESEARCH

Abstract #LB06

Pharmacist and Nurse Preferences for Preparing Large-Volume Subcutaneous Oncology Drugs During a Patient Capacity Crisis in the United Kingdom: A Discrete-Choice Study Comparing Manual Syringe Versus an On-Body Injector

Presenting Author: Haydon DuMond, PharmD, Enable Injections, Inc, Cincinnati, OH

BACKGROUND: UK oncology pharmacy services are managing a systemic anticancer therapy (SACT) crisis leading to increased delivery of large-volume subcutaneous (LVSC) oncology treatments in the home setting. Preparation of these LVSC biologics in the home setting via manual syringe introduces increased concerns regarding staff safety, medication errors, and workflow challenges. We assessed UK pharmacists' and nurses' preferences for LVSC preparation using a manual syringe process versus an on-body injector (OBI). Although oncology care in the United States remains largely clinic-based, the UK model highlights how at-home LVSC treatment can relieve clinic capacity strain.

OBJECTIVES: To measure pharmacists' and nurses' preferences for an OBI versus manual syringe and its relation to home-based LVSC delivery; to determine key factors influencing OBI preference among pharmacists and nurses; and to assess OBI usability and its perceived impact on workload, preparation time, and safety.

METHODS: We ran a cross-sectional, online survey with an embedded paired-profile choice task among UK oncology pharmacists and nurses involved in LVSC oncology preparations. Eligible respondents were practicing pharmacists or nurses with current LVSC preparation responsibilities and familiarity with the SACT crisis in the United Kingdom. The final sample included 162 practitioners (81 pharmacists, 81 nurses). Data collection was completed by August 29, 2025. In the paired-choice task, participants compared manual syringe versus OBI preparation across factors such as steps, time, cost, safety, and setting. They ranked their top 3 decision drivers, rated OBI ease of use and learning, and assessed expected effects on workload, efficiency, and safety.

RESULTS: Among the total sample, 93.8% preferred the OBI to the manual syringe preparation in both the preference question and the scenario. OBI was rated easy to use by 96.9% and easy to learn by 95.7%. Nearly all respondents anticipated reduced workload (96%), time savings (96%), greater efficiency and increased release capacity (94%), and reduced medication preparation errors (91%) with OBI adoption. According to participants, "less effort/time," "enhanced operator safety," and "fewer steps/supplies" were top drivers of preference. Most LVSC preparations currently occur in aseptic pharmacy (63%), with approximately 20% to 40% nurse-led (outside of pharmacy) preparations across settings.

CONCLUSION: Pharmacists and nurses strongly preferred an OBI to the manual syringe preparation for LVSC oncology drugs, citing fewer steps, less time, and improved safety. Most participants anticipated a reduced workload, fewer errors, and greater efficiency, supporting OBI adoption as a practical solution amid the UK SACT capacity crisis.

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