Mihaela Musat[1], Anna Forsythe[1], Saro Sarkisian[2]

[1]Oncoscope, Miami, FL, USA; [2]Frederick Health, Frederick, MD, USA

ISPOR Europe 2026
8-11 November 2026
Vienna, Austria

EPH130

Living post-marketing surveillance of safety, treatment persistence and safety outcomes for zanubrutinib in chronic lymphocytic leukemia (CLL)

A Real-Time AI-assisted Living Systematic Literature Review (REAL-SLR)

BACKGROUND

Randomized clinical trials establish efficacy and safety at regulatory approval; however, important uncertainties regarding treatment persistence, tolerability, and comparative effectiveness often remain.

As health technology assessment (HTA), payer, and treatment decisions increasingly incorporate **real-world evidence (RWE**), continuous monitoring of post-marketing outcomes has become increasingly important.

OBJECTIVES

to evaluate evolving safety and treatment persistence outcomes for zanubrutinib in CLL and assess how post-marketing evidence complements pivotal trial findings using the **Oncoscope** Real-Time AI-Assisted Living SLR (**REAL-SLR) database.**

METHODS

Oncoscope REAL-SLR is a **PRISMA-aligned**, **continuously updated** evidence database with daily protocol-defined searches of publications and major conference abstracts. RWE studies reporting safety, treatment discontinuation, time to discontinuation (TTD), or time to next treatment (TTNT) for zanubrutinib in CLL were identified and mapped by study design, geography, sample size, population characteristics, treatment pathway, and drug class. Outcomes of interest included adverse events (AEs), cardiovascular AEs, infections, treatment discontinuation, TTD, and TTNT.

RESULTS

- Of 40 studies including zanubrutinib-treated patients, 19 reported outcomes of interest and compared zanubrutinib with acalabrutinib/ibrutinib.
- Among six studies reporting TTNT, zanubrutinib showed significant improvement versus ibrutinib (2/2 studies) and acalabrutinib (4/6 studies).
- Among five studies reporting TTD, zanubrutinib showed longer TTD versus ibrutinib (4/5 studies) and acalabrutinib (3/3 studies).
- Discontinuation rates were lower with zanubrutinib than ibrutinib and acalabrutinib (49.2%-58.7%/56.6%-74.7%/39.0%-66.3% at 24-month, respectively).
- Atrial fibrillation rates were comparable to acalabrutinib (7.18% vs 7.98%; 11% vs 13% at one year) and lower than ibrutinib (11% vs 16%/8.0% vs 10.4%), though one study showed higher rates versus acalabrutinib (4.2% vs 2.3%).
- Rates of cardiovascular AEs were similar/numerically-lower with zanubrutinib than acalabrutinib (14.5% vs 21.0%).

KEY TAKEAWAYS

Oncoscope REAL-SLR RWE surveillance IDENTIFIED favorable treatment persistence and comparable or improved cardiovascular safety outcomes for zanubrutinib relative to other BTK inhibitors.

CONTINUOUS evidence MONITORING may reduce post-approval uncertainty, support comparative value assessment, and provide decision-makers with TIMELY evidence for HTA, reimbursement, and treatment selection in CLL.

Figure 1. **Continuously updated PRISMA (REAL-SLR framework) in CLL**
(updated Jun 15, 2026)

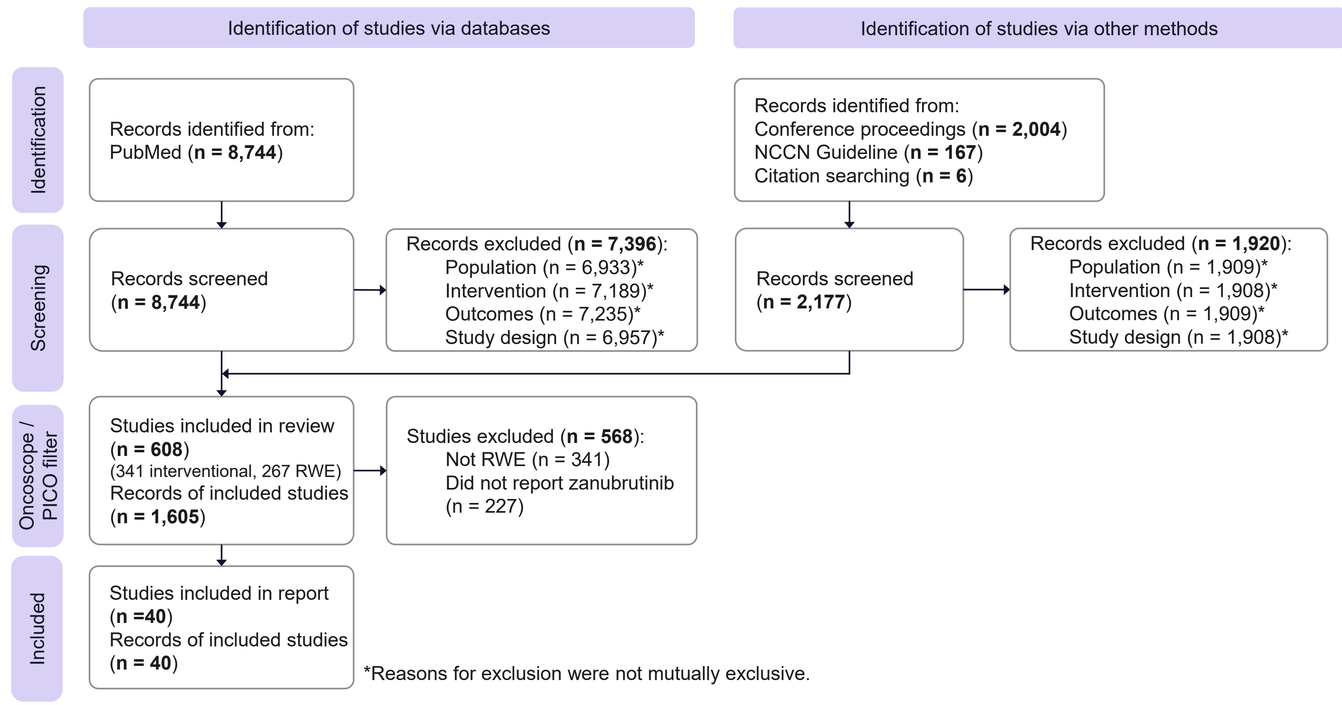


Figure 2. **REAL-SLR evidence capture summary during the study period**

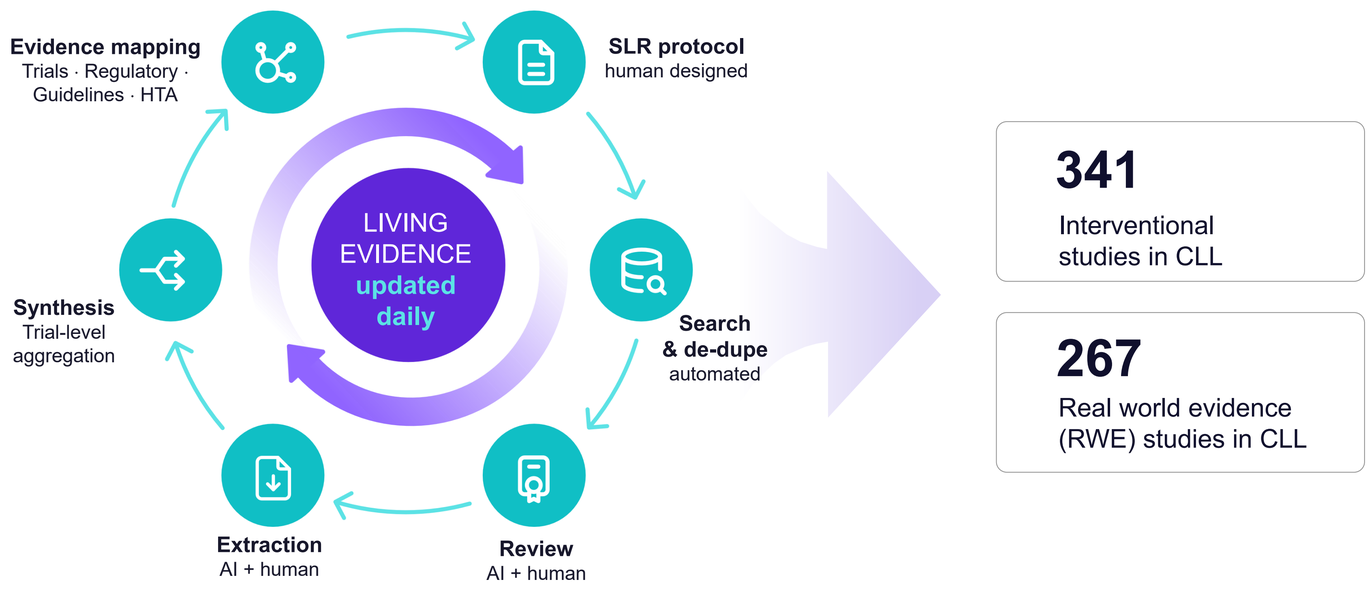
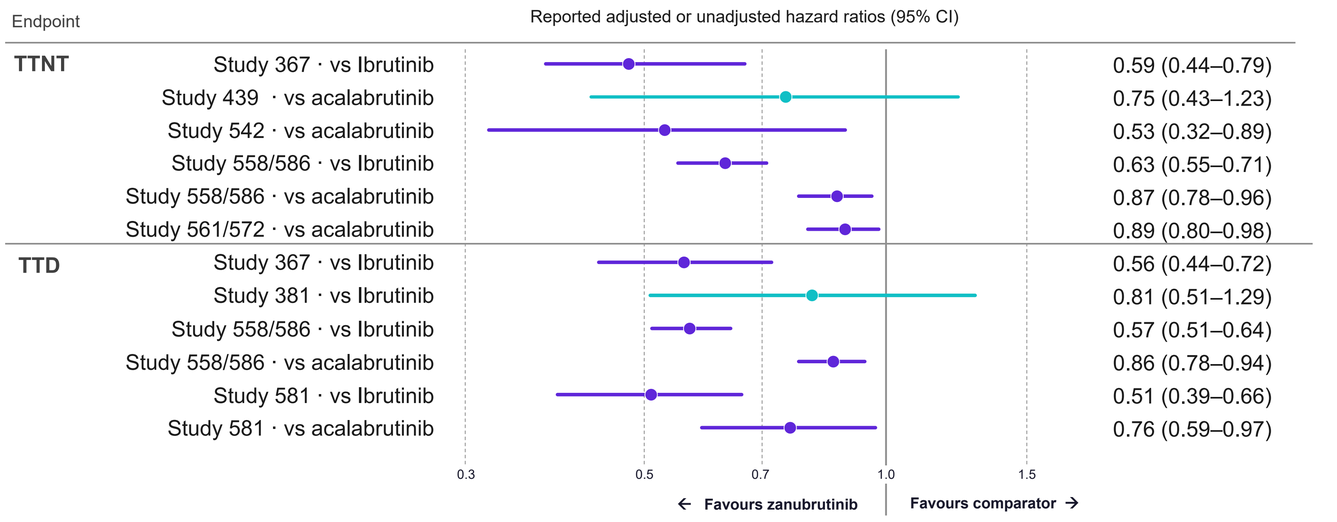


Figure 3. **Identifying zanubrutinib studies from the Oncoscope living CLL library**



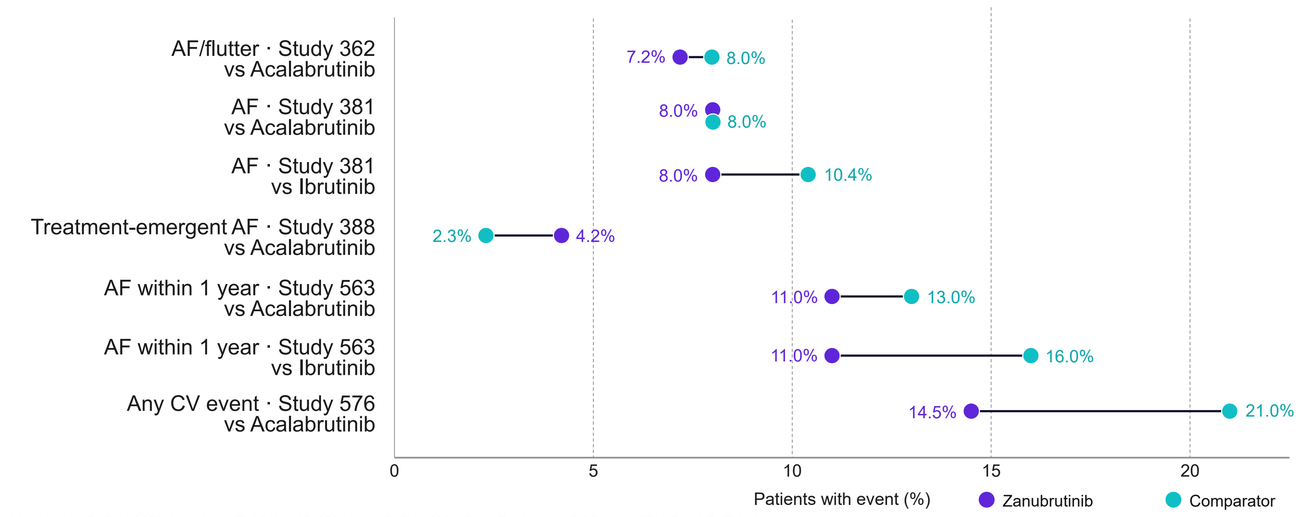
Figure 4. **Zanubrutinib treatment persistence in the real-world setting**



367 - Burke JM, ASH 2025; **381** - Hou JZ, ASH 2025; **439** - Ayati A ASH 2025; **542** - Ermann D, 2026; **558** - Ermann D, ASCO 2026; **558** - Ermann D, EHA 2026; **561** - Jacobs R, ASCO 2026; **561** - Jacobs R, EHA 2026; **572** - D'Antiga M, EHA 2026; **581** - Saba NS, EHA 2026; **586** - Sanna A, EHA 2026

Note. Study IDs are assigned in the Oncoscope living CLL library and are unrelated to reported study identifiers (if any) by the original researchers

Figure 5. **Real-world cardiovascular event incidence: zanubrutinib vs comparators**



362 - Jacobs R, EHA 2025; **381** - Hou JZ, ASH 2025; **388** - Hou JZ, EHA 2025; **563** - Fradley M, ASCO 2026; **576** - Dingli D, EHA 2026

Populations, follow-up and event definitions differ; values should not be pooled across studies. Study IDs are assigned in the Oncoscope living CLL library and are unrelated to reported study identifiers (if any) by the original researchers; AF = atrial fibrillation; CV = cardiovascular.

View all Oncoscope posters at ISPOR Europe 2026

ABBREVIATIONS

AE, adverse event; **AF,** atrial fibrillation; **BTK,** Bruton tyrosine kinase; **CI,** confidence interval; CLL, chronic lymphocytic leukemia; **CV,** cardiovascular; **HR,** hazard ratio; **HTA,** health technology assessment; **NCCN,** National Comprehensive Cancer Network; **PRISMA,** Preferred Reporting Items for Systematic Reviews and Meta-Analyses; **REAL-SLR,** Real-Time AI-Assisted Living Systematic Literature Review; **RWE,** real-world evidence; **SLR,** systematic literature review; **TTD,** time to discontinuation; **TTNT,** time to next treatment.