CT-694

Real-World Healthcare Resource Utilization (HCRU) Following Chimeric Antigen Receptor (CAR) T-Cell Therapy for Relapsed/Refractory (R/R) Large B-Cell Lymphoma (LBCL) in New Authorized Treatment Centers in the United States (US)

Olalekan O Oluwole[1], Pardis Lakzadeh[2], Constance Lau[3], Steve Kanters[2], Genevieve Meier[4], Hil Hsu[3], Sean Harrigan[2], Graeme Ball[3], Markqayne Ray[3], Evan Popoff[2]

[1]Vanderbilt University Medical Center, Nashville, TN, USA, [2]RainCity Analytics, Vancouver, BC, Canada, [3]Kite, a Gilead Company, Santa Monica, CA, USA, [4]Aesara Inc, Chapel Hill, NC, USA

PLAIN LANGUAGE SUMMARY

- This study looked at how many healthcare resources patients utilized after getting CAR T-cell therapy for Relapsed/Refractory (R/R) Large B-Cell Lymphoma (LBCL) at newly authorized treatment centers in the US that were not accredited by FACT (Foundation for the Accreditation of Cellular Therapy) at their inception.
- Among 21 patients at four centers, early results show hospital stays, intensive care unit (ICU) use, and readmissions were similar to rates at more established centers. This suggests newer centers could offer CAR T therapy in a practical and sustainable way.

BACKGROUND

CAR T-cell therapy access has historically been limited to a small number of authorized treatment centers (ATCs).[1,2] Recent initiatives aim to expand access by establishing new, geographically diverse ATCs, many of which begin offering CAR T prior to FACT accreditation. However, real-world outcomes in these newly established centers remain largely unknown.

OBJECTIVE

To describe preliminary post-infusion healthcare resource utilization (HCRU) at new US ATCs, defined as CAR T centers that were not FACT-accredited during the analysis period.

METHODS

Study Design and Data source

- This was a retrospective observational study using open claims data from the HealthVerity Medical dataset between January 2023-June 2025.
- The HV Marketplace open claims dataset is sourced from clearing houses, pharmacies, and software platforms across the US, reflecting data from healthcare encounters nationwide.
- Adults (aged ≥18 years) were included if they had a diagnosis of LBCL within 60 days prior to CAR T-cell infusion and received inpatient treatment at a new US Authorized Treatment Center (ATC), as identified through submitted claims using a combination of procedure and billing codes.
  - ICD-10-CM, ICD-10-PCS, HCPCS, and CPT codes were used to identify diagnoses, treatments, and services.
- Patients were excluded if there was evidence of clinical trial participation at the time of infusion or a diagnosis-product mismatch (e.g. received a CAR T therapy not indicated for their cancer type).

Outcomes

- Outcomes included inpatient utilization metrics including, hospital admissions, intensive care unit (ICU) use, length of stay (LOS), and 30-day readmission rates.
- Outpatient utilization† encompassed physician visits, outpatient services (medical procedures, treatments, or diagnostics) and emergency department (ED) visits.
- Timing of care was assessed based on days to first hospital admission following CAR T-cell infusion.

†In this analysis *outpatient utilization refers to any healthcare claim classified as outpatient based on how the place of service was coded, including outpatient hospital settings, physician offices, or off-campus outpatient facilities.*

Statistical Analysis

- Outcomes were summarized using standard statistical methods. Categorical variables were reported as frequencies and percentages, while continuous and count data were described using both mean and median values.

RESULTS

Study population characteristics

- A total of 21 patients were identified that received CAR T-cell therapy across four new US ATCs, with geographic representation spanning the Midwest, South, and Southwest.
- The number of patients infused at these new ATCs grew steadily, more than doubling from 2023 to 2024 and increasing by over 50% from 2024 to mid-2025.
- The mean age of patients was 71 years (SD: 13.1), and the majority were male (62%). Most patients were covered by Medicare Fee-for-Service (62%), with an additional 38% covered under Medicare Advantage or other plans (**Table 1**).
- The predominant CAR T product administered was axicabtagene ciloleucel (n=13).

RESULTS

Table 1. Baseline Characteristics (n=21)

Characteristic	Category	Mean (SD) / n (%)
Age	--	71.2 (13.1)
Age Group (years)	65+	17 (81%)
Sex	Male	13 (62%)
Type of Insurance	Medicare	13 (62%)
CAR T Product	Axi-cel	13 (62%)
Comorbidity Counts	≥2: Moderate and high comorbidity burden	11 (52%)

30-Day All-cause Healthcare Utilization (Post-Infusion)

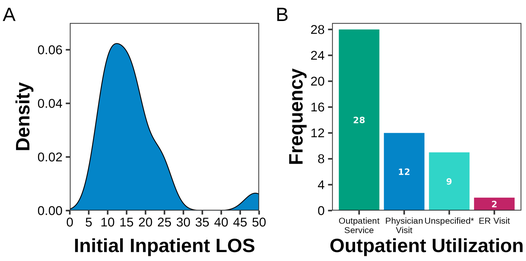
- Among treated patients, the mean LOS for the initial hospitalization post-infusion was 16.4 days (SD: 9.1), while the median was 15 days (range: 7 – 49) (**Table 2**).
- The small gap between the mean and median suggests a relatively symmetric distribution of LOS, though a few longer stays may have modestly influenced the average (**Figure 1A**).
- ICU admission during the first 30 days occurred in <5% of patients, all with a one-day LOS.
- Thirty-day readmissions occurred in 24% of patients, with a mean LOS of 8.5 days (SD 6.6) and median of 7 days (range 2–19), indicating mostly short stays with a few longer ones raising the average (**Table 2**).

Table 2. 30-Day Post–CAR T utilization (Averages & Medians; n=21)

Utilization Category	Mean (SD)	Median (Range)
Initial Hospitalization		
Length of stay (days)	16.4 (9.1)	15 (7 – 49)
Readmissions (within 30 days post infusion)		
Number of inpatient readmissions	0.3 (0.6)	0 (0-2)
Readmission length of stay (days)	8.5 (6.6)	7 (2 -19)
Outpatient Utilization (within 30 days post infusion)		
Number of physician visits	1.5 (0.8)	1 (1-3)
Number of ED visits	1.0 (0.0)	1 (1-1)
Number of outpatient services (e.g., labs, imaging, infusions)	2.2 (1.2)	2 (1-5)
Unspecified*	1.3 (0.5)	1 (1-2)

ED: Emergency department; * "Unspecified" refers to any claim identified as outpatient utilization based on place of service but not categorized under outpatient services, physician visits, or emergency room visits.

Figure 1. 30-Day HCRU Post–CAR T Infusion



Outpatient utilization includes any claim coded for outpatient care, such as hospital outpatient, physician office, or off-campus facility.
* "Unspecified" refers to any claim identified as outpatient utilization based on place of service but not categorized under outpatient services, physician visits, or emergency room visits.

- Outpatient utilization within 30 days post-CAR T infusion included an average of 1.5 physician visits (median: 1.0), 1.0 ED visits (median: 1.0), and 2.2 outpatient services such as labs or imaging (median: 2.0). (**Figure 1B**).
- Across these categories, median values were generally equal to or slightly lower than means, suggesting relatively consistent patterns of use with limited variation (**Table 2**).

Limitations

- This analysis is limited to new US ATCs that are captured within open claims data during the analysis period. As a result, findings may not be fully representative of all treatment centers.
- Open claims are sourced from intermediaries and may omit data from certain providers, leading to potential gaps or biases in outcome capture.
- Missing information in key fields such as procedure and diagnostic codes may also affect the completeness of reported utilization patterns.
- Finally, the sample size is currently small (n=21), but as more centers begin offering CAR T-cell therapy, the sample is expected to become more representative, enhancing the applicability of the findings.

CONCLUSIONS

- Results from this initial analysis of post-infusion HCRU at new US ATCs show increasing CAR T administration across diverse geographic regions.
- This expansion demonstrates the feasibility of delivering CAR T in a broader range of oncology care settings, potentially enhancing patient access without increasing HCRU beyond expected levels.
- Findings from this study suggest that observed post-infusion HCRU patterns align with those reported in existing literature [3,4], suggesting that resource use and potentially associated costs could remain consistent or possibly lower than status quo in these new settings.
- Although further research is needed to assess long-term clinical outcomes and costs, these early data support continued growth of CAR T delivery across new centers to meet rising patient demand.

REFERENCES

1. Kansagra A, Frey N, Bar M, LaRose S, Gauthier J, Turtle C. Expanding access to chimeric antigen receptor T-cell therapies: challenges and opportunities. Am Soc Clin Oncol Educ Book. 2020;40:e27-e34. doi:10.1200/EDBK_279631
2. Gajra A, Zalenski A, Sannareddy A, Jeune-Smith Y, Kapinos K, Kansagra A. Barriers to chimeric antigen receptor T-cell (CAR-T) therapies in clinical practice. Pharmaceut Med. 2022;36(3):163-171. doi:10.1007/s40290-022-00428-w
3. Davies KR, Kamalakar R, Yu J, Huang Y, Wang A, Sail K, Doerr T, Sharmokh S, Mutebi A, Salles G. Health care resource utilization and costs of CAR T therapy in patients with large B-cell lymphoma: a retrospective US claims database analysis. Blood. 2022;140(Suppl 1):5058-5059. doi:10.1182/blood-2022-157758
4. Riedell PA, Hwang WT, Nastoupil LJ, Pennisi M, McGuirk JP, Maziarz RT, Bachanova V, Oluwole OO, Brower J, Flores OA, Ahmed N, Schachter L, Bharucha K, Dholaria BR, Schuster SJ, Perales MA, Bishop MR, Porter DL. Patterns of use, outcomes, and resource utilization among recipients of commercial axicabtagene ciloleucel and tisagenlecleucel for relapsed/refractory aggressive B cell lymphomas. Transplant Cell Ther. 2022;28(10):669-676. doi:10.1016/j.jtct.2022.07.011

DISCLOSURES

Dr. Oluwole: consulting/advisory roles with Pfizer, Kite, Gilead, AbbVie, Janssen, TGR Therapeutics, ADC, Novartis, Epizyme, Curio Science, Nektar, Cargo, Caribou, Autolus, Bioheng, Allogene, and BMS; honoraria from Gilead and ADC; and research funding from Gilead.

This study was funded by Kite, a Gilead Company.

Presented at the Society of Hematologic Oncology 2025 Annual Meeting, September 3-5, 2025, Houston, Texas