

Characteristics of Medicare Beneficiaries With Multiple Administrations of CAR-T Therapy

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Background

Chimeric antigen receptor T-cell therapy (CAR-T), approved in Q4 2017, initially saw limited uptake due to single indication approval and the high-cost. Since then, both the number of indications and CAR-T products have increased. Provider familiarity has also increased with the cost dynamics of the therapy. The seven-year increase in CAR-T utilization now provides ample data to evaluate patients who have received multiple CAR-T treatments.

Objectives

1. Identify the rate of CAR-T reoccurrence in Medicare beneficiaries
2. Assess factors that may be influencing reoccurrence

Methods

- 100% Medicare Fee-For-Service Research Identifiable Files (RIFs) from Q4 2017 through Q2 2023
- 100% Medicare Advantage Encounter data from 2017 through 2021
- Patients were selected if they received two administrations of CAR-T on different days
- Both inpatient and outpatient claims were assessed

Results

Table 1 – Comparison of Single CAR-T vs Two CAR-T Administrations

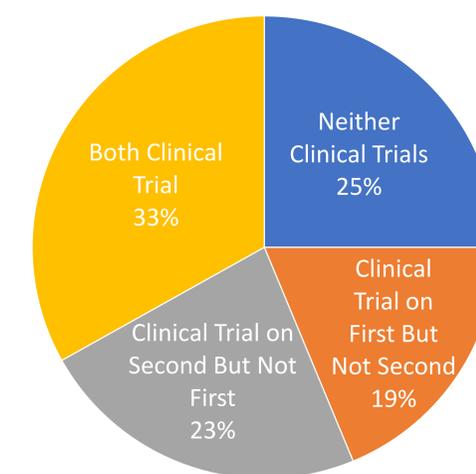
	Beneficiaries with 1 CAR-T	Beneficiaries with 2 CAR-T**	Statistical Significance
Beneficiary Count	5,990 (97%)	160 (3%)	
Mean Age	69.6	68.6	n/s
Male	60.1%	64.4%	n/s
White	82.1%	82.5%	n/s
Mortality Within 6 Months of CAR-T	21.0%	40.6%	p < 0.0001

**A small number (n<11) of beneficiaries had more than 2 CAR-T administrations, but they were not included in the "Beneficiaries with 2 CAR-T" group

Nearly 2x Rate of Mortality For Beneficiaries with 2 CAR-T Administrations

Table 2 – Site of Care for Multiple CAR-T Administrations

	Inpatient to Inpatient	Outpatient to Inpatient	Statistical Significance
Beneficiary Count	145 (91%)	15 (9%)	
Mean Age	68.2	72.2	p = 0.116
Male	60.7%	n<11	n/s
White	82.1%	86.7%	n/s
Mortality Within 6 Months of CAR-T	40.0%	n<11	p = 0.586
Mean Days Between CAR-T (SD)	314 (290)	38 (63)	p < 0.0001



Conclusions

- Beneficiaries receiving multiple CAR-T administrations do not appear to be demographically different from those with a single CAR-T administration.
- Recurrent CAR-T occurs more quickly when the initial CAR-T is in the outpatient setting.
- In the coming years, more patients will be receiving reoccurring CAR-T therapy. This initial group will be important for the evaluation of health outcomes and effectiveness of the therapy.

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