

CAR T-Cell Therapy via a Community Lens

BY MATTHEW MATASAR, MD

The rapidly evolving field of chimeric antigen receptor (CAR) T-cell therapy has emerged as a groundbreaking innovation in the treatment of hematologic malignancies and beyond, offering hope to patients with refractory or relapsed blood cancers. By harnessing the patient's own T cells to recognize and destroy cancer cells, CAR T-cell therapy provides a targeted, personalized immune therapy approach to cancer treatment. Unlike traditional treatments like chemotherapy or radiation, which can indiscriminately attack both cancer cells and healthy cells, CAR T-cell therapy precisely targets cancer at the cellular level.

CAR T-cell therapy involves filtering healthy T cells from a patient's blood via apheresis, genetically modifying them to express chimeric antigen receptors capable of targeting specific proteins on the surface of cancer cells and reinfusing these enhanced cells. The therapy operates as a "living drug," with the potential to provide durable responses or even cure diseases that have resisted other therapies.

However, access to this life-saving treatment remains a challenge for many, particularly in underserved communities, and efforts to bring CAR T-cell therapy into the community must address logistical, operational, and educational barriers to improve access for all patients.

As Rutgers Cancer Institute and RWJBarnabas Health spearhead efforts to enhance patient access and operational effectiveness, key stakeholders convened at the institution's Annual Oncology Clinical Practice and Research Summit to discuss the challenges and triumphs in deploying this transformative therapy closer to patients' homes.

"Studies show that although many patients are candidates for CAR T-cell therapy, as few as 20% actually receive this potentially life-saving therapy. These disparities are especially pronounced among minority populations, individuals from socioeconomic disadvantaged backgrounds, and for those residing further from a CAR T-cell therapy center. Further compounding these challenges, FDA regulations require CAR T-cell therapy centers to ensure patients remain within a two-hour radius for the first 30 days after treatment. Additionally, patients are prohibited from driving for up to two months after infusion. Together, these factors present significant barriers to equitable access."

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Access to CAR T-cell Therapy: Addressing Barriers in the Community

CAR T-cell therapy's complexity requires patients to travel to specialized centers for treatment administration and monitoring. However, logistical challenges, such as transportation difficulties, the need for caregiver support, and financial strain, can create significant barriers to accessing this care, particularly for patients in underserved communities.

Beyond logistical support, financial concerns remain a major obstacle. It is essential for patient financial advocates to work closely with families to navigate insurance coverage and explore financial assistance programs.

Awareness and Community Education

Despite its transformational potential, CAR T-cell therapy remains underutilized in some communities due to a lack of awareness about



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available resources, including financial assistance programs, housing options, and caregiver support. Misconceptions about the treatment process or eligibility criteria can also hinder access to care.

Rutgers Cancer Institute together with RWJBarnabas Health, New Jersey's only National Cancer Institute-designated Comprehensive Cancer Center, is actively addressing knowledge gaps through targeted outreach and education efforts. By engaging both patients and community providers, we aim to raise awareness and understanding of the availability and benefits of CAR T-cell therapy, ensuring broader access to this innovative treatment.

Community oncology practices play a vital role in bridging the gap between patients and specialized centers. By fostering collaborations with regional cancer centers and community hospitals, as well as engaging in outreach efforts with community oncologists, these practices can help ensure that CAR T-cell candidates are identified early in their treatment journey, paving the way for timely and effective care.

Operational Challenges and Continuity of Care

CAR T-cell therapy requires multiple stages of care as well as transition between providers.

The operational challenges of delivering CAR T-cell therapy come with the coordination between specialized centers to extract the T cells, manufacturers of CAR T-cell products to genetically modify them, and transportation between the manufacturing facility and back to the treatment center for reinfusion.

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This requires robust coordination between multidisciplinary teams to ensure a seamless patient journey, from pre-treatment to follow-up care. Once treatment is completed, the focus shifts to continuity of care as patients return to community oncology providers for ongoing support. Consistent communication and coordination are necessary to ensure patients continue to receive the care they need locally.

Future Directions

As demand for CAR T-cell therapy grows, meeting patient needs will require significant advancements in infrastructure and specialist training.

Scaling access to CAR T-cell therapy will depend on expanding capacity, not just in specialized centers but also in community-based settings. By integrating CAR T-cell therapy into more local hospitals and fostering robust partnerships, therapy can reach more patients in need, especially those in underserved areas.

Furthermore, continuous innovation remains vital, particularly through clinical trials focused on next-generation CAR T-cell therapies. These advancements aim to broaden the range of treatable cancers and allied diseases while improving both safety and efficacy. Optimizing these therapies will be instrumental in making CAR T-cell treatment more accessible for diverse populations. However, overcoming logistical and educational barriers—such as travel constraints, limited awareness, and resource shortages—is essential.

By focusing on these challenges and fostering collaborations across institutions, the full potential of CAR T-cell therapy can be realized for all patients, regardless of geographic or socioeconomic limitations. **OT**