

Fox Chase Cancer Center CAR T-cell Practice Profile

Center of excellence and community cancer programs collaborate to deliver CAR T-cell therapies

This article explores the approach that Fox Chase Cancer Center took to deliver CAR T-cell therapies for patients from community cancer programs and its lessons learned.

Fox Chase Cancer Center at Temple University Hospital, Philadelphia, PA, is a national leader in cancer research and treatment. Henry Chi Hang Fung, MD, FACP, FRCPE, is Chair of the Department of Bone Marrow Transplant and Cellular Therapies (BMT), which is one of the few institutions in the country authorized to deliver all available FDA-approved CAR T-cell therapies.¹ The BMT Department participated in several clinical trials for CAR T-cell therapies for B-cell non-Hodgkin lymphoma and mantle-cell lymphoma, which launched the era of offering cutting-edge cellular therapies at Fox Chase Cancer Center. The department is recognized by the Foundation for the Accreditation of Cellular Therapy (FACT), indicating that the institution meets the highest standards in stem cell transplant and cellular therapy.²

In spring 2022, staff from the Fox Chase Cancer Center BMT program participated in a focus group to identify lessons learned and effective practices to help community cancer centers build referral networks with institutions offering cellular therapies.

Elements of a Successful CAR T-cell Therapy Program

- **A process for onboarding CAR T-cell products.** There are varying specifications in the apheresis process, packaging, and shipping, and re-infusion of cells for each CAR T-cell product. When Fox Chase

started offering CAR T-cell therapies, the team began onboarding two products around the same time. In retrospect, the team recommends focusing on one product at a time to control for the nuances of each kind of therapy.

- **A risk evaluation and mitigation strategy.** The Food and Drug Administration (FDA) requires that any facility administering CAR T-cell products develop a **risk evaluation and mitigation strategy** (REMS) with the goal of “preventing, monitoring, and/or managing a specific serious risk by informing, educating, and/or reinforcing actions to reduce the frequency and/or severity of the event.”³ In the case of CAR T-cell products, the FDA requires that the facility have two doses of Tocilizumab available for each patient receiving CAR T-cell

therapy within two hours of each infusion for the treatment of cytokine release syndrome (CRS) or neurological toxicities. This process involves a multi-disciplinary approach that includes providers, nursing, pharmacy, laboratory, and administration, and is a key step in ensuring the safe administration of CAR T-cell products at any institution.

- **Coverage and reimbursement.** Initiating the single case agreement required for each administration of CAR T-cell therapy as early as possible helps ensure a smooth approval and treatment process. At Fox Chase, nurse care coordinators reach out to case management at the time of referral, so the coverage process begins in parallel to the preparative treatment and timing of cell collection.



“Nurse coordinators do an excellent job of working with case management to get the single case agreement, which has helped shorten the time to approval. There have been several cases of receiving the cells right before the infusion before the single case agreement was finalized, but because the insurance and case management are aware, our team feels comfortable proceeding with the care without interruption, knowing they’ve got that communication started with the insurance company.”

– Therese Coyne, MMHC, MSN, RN,
NE-BC Associate Vice President,
BMT Program

Patient Identification and Referral

- **Provider outreach.** Proactively building a strong network of referral sources is a key component to early identification of eligible patients. Margaret Bellerjeau, MSN, RN, OCN, CHTC, has worked with the cellular therapy program since its inception. As the Program Educator, she works with Key Account Managers to provide education resources to providers in a 250-mile radius and she has found that providing the history of the program is helpful in outreach efforts. This collaboration between clinical staff and marketing also facilitates calls between Dr. Fung and community oncologists to discuss patient cases and help identify patients who may be eligible for stem cell transplant and cellular therapies. The Fox Chase team has also found that mobilizing the physician fellowship program helps sustain active patient identification.
- **Referral.** The Fox Chase team uses a [referral guide](#), adapted from the American Society for Transplantation and Cellular Therapy resources for identifying

Spotlighting the Partnership with St. Luke’s Hospital for Patient Identification and Care Coordination

A unique feature of the Fox Chase Cancer Center blood cancer program is a long-standing partnership with St. Luke’s hospital system. Dr. Fung conducts patient consults once per month at St. Luke’s University Health Network-Anderson Campus in Easton, PA, and identifies patients for stem cell transplant or CAR T-cell therapy. Patients are referred directly to the nurse coordinators with the Fox Chase BMT program to begin the clinical care coordination and insurance approval processes. Patients receive pre-infusion testing and bridging therapy at St. Luke’s and then return for follow-up care in their community.

“Having a close working relationship with them [Fox Chase], it’s wonderful. We can see what they’re doing. They [providers] are able to actually interact in real time. If we’re seeing them [patients] the next day, we know what’s going on, coordinating care after they [patients] get their treatment there [at Fox Chase]. So, it’s all around a better a better situation for the patient.”

– Michelle Peartree, PA



Yacoub Faroun, MD has been at St. Luke’s Hematology Oncology Specialists in Allentown for 17 years and has seen how the partnership can contribute to better outcomes for patients. Dr. Faroun shared that if cellular therapies are expanded into community hospitals, building systems to support patients and caregivers with travel and lodging will be critical to ensuring patient safety and well-being. Dr. Faroun also expressed hope that emerging studies on the use of prophylactic steroids for management of side effects will help to support community hospitals in offering CAR T-cell therapies.



patients eligible for CAR T-cell therapy. For non-Hodgkin and select indolent lymphomas, the recommended timing is after the first relapse, and preferably before initiating salvage therapy. For multiple myeloma, the recommended timing is after two prior lines of therapy or after treatment with a proteasome inhibitor, immunomodulatory agent, and an anti-CD38 monoclonal antibody.

- **Care coordination.** The entire CAR T-cell therapy process requires detailed care coordination at every step. Communication between the cellular therapy center of excellence and the community oncology program involves numerous requests for labs and tests, including treatment history, immune studies, blood work, and biopsy results. Knowing the physicians, advanced practitioners, and nurses on a first-name basis allows staff at both the transplant center and the community program to work together to time bridging therapy, collect cells, respond to insurance coverage requirements, and monitor side effects and treatment outcomes.

Patient Support

- **Engaging and educating caregivers.** Patients require 24/7 caregiving to help with care coordination and to monitor for symptoms of CRS and neurological toxicity. The actual CAR T-cell

preparation and infusion takes around 10 days. Patients must stay within a two-hour radius for four weeks after therapy and driving is restricted for eight weeks. The patient signs an acknowledgement of behavioral expectations that promote positive care outcomes and indicates a primary and backup caregiver. The team at Fox Chase supports the primary caregiver from the beginning by providing education and a roadmap for their key role in the treatment process. A detailed plan signed by the caregiver outlines the patient's lodging plan, caregiver responsibilities, and patient safety and monitoring plan.

- **Reducing financial toxicity.** While CAR T-cell therapy is a groundbreaking treatment option for blood cancers, reducing financial barriers to the patient, provider, and payer is a significant concern. At this time, the actual cost of CAR T-cell therapy for a single patient can range from \$500,000 to more than \$1 million.⁴ The social work team at Fox Chase screens every patient for potential financial support and insurance optimization. The team hopes to move toward a model in which each patient meets with a financial counselor to develop a detailed financing plan regardless of insurance status or financial support available. ▲

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