Engagement Report for Service specification for the delivery of Chimeric Antigen Receptor T Cell (CAR-T) Therapy (all indications, all ages)

7 May 2025 Version 1.0

Topic details

Programme of Care	No PoC, managed by Innovative Treatments Team
Clinical Reference Group	No CRG
Unique Reference Number (URN)	2101

1. Summary

This report summarises the feedback NHS England received from engagement during the development of the CAR-T service specification, and how this feedback has been considered. The key themes that have emerged are to address collaboration between cell therapy experts and disease specific CAR-T experts for sustainable pathways, the management of patients post discharge and restriction on the commissioned centres for service delivery. The feedback provided has been considered and minor changes have been made accordingly. The changes made do not impact the delivery of this service vastly and so no further consultation is required.

2. Background

This specification (the 'Specification') relates to children, teenagers, and young adults (TYA) and adult patients who are within the commissioning responsibility of NHS England and who are undergoing Chimeric Antigen Receptor T-Cell (CAR-T) therapy.

CAR-T therapy is specifically developed for each individual patient and involves reprogramming the patient's own immune system cells to manufacture a product which is used to target their cancer condition.

CAR-T was first commissioned for use in the NHS by NHS England in 2018 with the introduction of tisagenlecleucel for use in acute lymphoblastic leukaemia (ALL) and large B-cell lymphoma. Since then, various CAR-T products for a variety of indications have come to market and are listed below.

- Autologous anti-CD19-transduced CD3+ cells for treating relapsed or refractory mantle cell lymphoma (TA677), published February 2021 **https://www.nice.org.uk/guidance/ta677**
- Axicabtagene ciloleucel for treating relapsed or refractory follicular lymphoma, published June 2023, **https://www.nice.org.uk/guidance/ta894**
- Axicabtagene ciloleucel for treating relapsed or refractory diffuse large B-cell lymphoma after first-line chemoimmunotherapy, published June 2023, **https://www.nice.org.uk/guidance/ta895**
- Brexucabtagene autoleucel for treating relapsed or refractory B-cell acute lymphoblastic leukaemia in people 26 years and over, published June 2023, **https://www.nice.org.uk/guidance/ta893**
- Axicabtagene ciloleucel for treating diffuse large B-cell lymphoma and primary mediastinal large B-cell lymphoma after 2 or more systemic therapies, published February 2023, **https://www.nice.org.uk/guidance/ta872**
- Tisagenlecleucel for treating relapsed or refractory B-cell acute lymphoblastic leukaemia in people 25 years and under, published May 2024**,** **https://www.nice.org.uk/guidance/ta975**Lisocabtagene maraleucel for treating relapsed or refractory large B-cell lymphoma after first-line chemoimmunotherapy when a stem cell transplant is suitable, published March 2025 **https://www.nice.org.uk/guidance/ta1048**

Interim service specifications were developed in 2019 to cover the inception of CAR-T as a new service to the NHS. An updated service specification was completed and circulated to all CAR-T providers following signoff by CPAG in 2021 but was never published. The service specification has been updated again to reflect more up to date clinical practice and patient pathway, with the view to officially publish this final version.

3. Engagement Results

3.1 Stakeholder Testing

NHS England has a duty under Section 13Q of the NHS Act 2006 (as amended) to 'make arrangements' to involve the public in commissioning. Full guidance is available in the Statement of Arrangements and Guidance on Patient and Public Participation in Commissioning. In addition, NHS England has a legal duty to promote equality under the

Equality Act (2010) and reduce health inequalities under the Health and Social Care Act (2012).

The service specification was sent for stakeholder testing for four weeks from 26th November 2024 to 17th December 2024.

Respondents were asked the following questions:

- Have you read the draft service specification and supporting information
- To what extent do you agree with the following statement: “As CAR-T cell therapies expand into different clinical areas, it is critical to shift clinical expertise to disease-specific applications. The collaboration between cell therapy experts and disease-specific CAR-T experts would lead to a more sustainable pathway.”

  To what extent are you in support of the above change?
- To what extent do you agree with the following statement:
  “Patients are required to be within approximately 2 hours’ travel time of the administering unit for a minimum of 2 weeks post-discharge, with the recommendation being 2-4 weeks at the discretion of the CAR-T centre according to the local pathways established with their referral units.”

  To what extent are you in support of the above change?
- To what extend do you agree with the following statement:
  “As CAR-T experience develops, the NHS in England should adopt a model that allows both Autologous stem cell transplants and Allogeneic stem cell transplants centres to deliver CAR-T in future commissioning framework.

  To what extent are you in support of the above change?
- Please provide any additional comments that you would like to make about the revised service specification (in under 500 words)
- Please add any comments on the metrics and outcomes for stakeholder testing tables (see appendix)
- Do you support the Equality and Health Inequalities Impact Assessment?

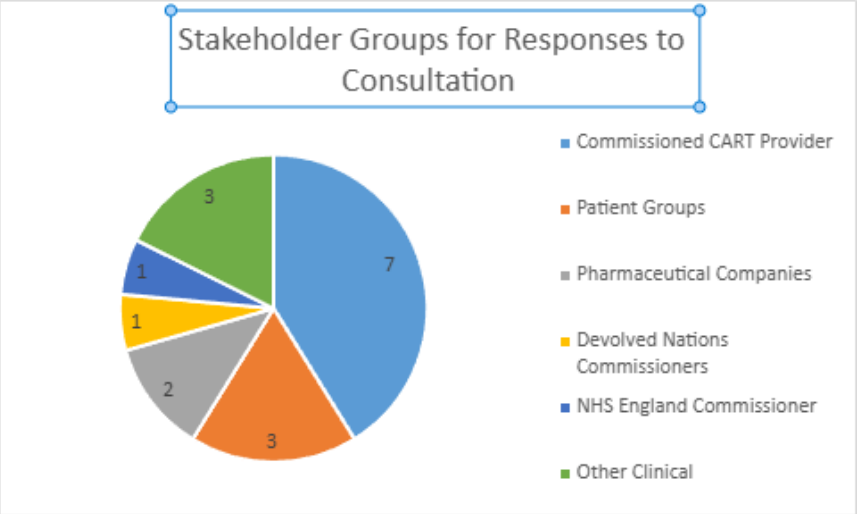
3.2 Stakeholder testing results and summary of participants

The list of the 1338 stakeholders involved in the stakeholder testing included members of the following groups:

- Blood and marrow transplantation experts
- Specialised blood disorders experts
- Cancer diagnostics interest group
- Children and young people’s cancer interest groups
- Liver Disease and Liver Cancer
- Cancer Advisory Group

- Specialised cancer surgery
- LTP Working Group (Cancer)
- Haemoglobinopathies
- Paediatric haematology
- Pharmaceutical industry representatives
- National CAR-T Clinical Panels – ALL and Lymphoma
- National CAR-T Paediatric Clinical Panel
- All commissioned CAR-T centres
- NHS BT
- Patient charities – Anthony Nolan
- ATMP commissioners in the devolved nations
- Blood and Marrow Transplant CRG
- Cancer CRG
- Companies that manufacture NICE approved CAR-T products
- Companies that manufacture CAR-T products which are in the NICE TA pipeline
- PPVAG members

The service specification received 17 stakeholder responses:



There was a wide range of responses from across a multitude of stakeholders and a 13Q assessment has been completed following stakeholder testing. T**he Innovative Treatments team has concluded that the service specification and proposed amendments do not constitute material changes to the way in which services are delivered, or the range of services available and therefore further public consultation is not required.**

4 How has feedback been considered

Responses to engagement have been reviewed by the Innovative Treatments Team. The following themes were raised during engagement:

Engagement activity theme identified in e.g. stakeholder testing, public consultation	Key themes in feedback	NHS England Response
	Collaboration between cell therapy experts and disease specific CAR-T experts for sustainable pathways.	
Stakeholder Testing	The majority (65%) of respondents agreed collaboration between cell therapy experts and disease specific CAR-T experts was important to allow for seamless patient pathways to be created.	No change required. This aligns with the intention of the service specification, where collaboration is encouraged between disease specific experts and cellular therapy experts to be able to successfully deliver CAR-T. Collaboration is further detailed under section 7.4 “essential staff groups” within the service specification.
Stakeholder Testing	One stakeholder noted that the sites where CAR-T is delivered (regardless of whether it is a cancer or non-cancer indication) should remain a JACIE accredited site to ensure optimal staff training and facilities are in place. Separately two other stakeholders note also that JACIE accreditation is essential if centres are to be broadened.	No change required. When disease specific CAR-T is commissioned, which falls outside of the haematological space, discussions will be held with JACIE to determine if it is possible to give sites accreditation to specific elements of the pathway, such as Immune Effector Cells in isolation.
Stakeholder Testing	Two stakeholders noted that emphasis needs to be made on the collaboration element between the cell therapy experts and the disease specific experts. They also noted that the service cannot be delivered by one clinical team alone, a shared care element will need to be in place.	No change required. This aligns with the intention of the service specification, where collaboration is encouraged between disease specific experts and cellular therapy experts to be able to successfully deliver CAR-T. Collaboration is further detailed under section 7.4 “essential staff groups” within the service specification. When new treatments emerge for CAR-T therapies outside of the haematological space, due diligence will

		be given to the treatment pathway and what service level agreements may need to be in place.
	Management of patients post discharge.	
Stakeholder Testing	Half (50%) of stakeholders agree with patients needing to be within 2 hours travel of the treatment centre for a maximum of 4 weeks post treatment.	No change required. This element of the specification remains unchanged and will stay at 2 hours.
Stakeholder Testing	Some stakeholders commented that, for two of the CAR-T products, the SmPC has changed and no longer includes the 2-hour time that a patient should be in proximity of a treatment centre for. One SmPC still remains as having a 2-hour distance stipulation within it. The stakeholders have requested wording to be amended to leave discretion to the treating clinicians.	No change has been made. As one SmPC still states the 2 hours' time distance for a patient to remain near the treatment site, this section will remain unchanged. Clinical stakeholders have also noted that the 2-hour proximity is needed from a clinical perspective, while other stakeholders use a 1-hour time distance to meet specific ambulatory care guidance.
Stakeholder Testing	A response asked for the consideration of ambulatory care especially as less toxic CAR-Ts come to the market. Patients may be seen daily for 14 days of the recommended follow up period of 4 weeks but after day 14 they may only be seen every other day in ambulatory care until the 4-week mark. A stakeholder also requested clarity on the statement 'post discharge 4-week monitoring period' and that this should in fact be post infusion 4-week monitoring period'	No change required. This has already been considered within the service specification. It is acknowledged that follow up for at least 4 weeks by the commissioned CAR-T site is essential. However, as CAR-T experience has increased over the years, clinician discretion is allowed in the frequency of how best to manage patient follow up in these 4 weeks post infusion. Patient pathways will be given consideration for each CAR-T that is approved by NICE, ambulatory care appropriateness will be assessed at that time.
	Restriction on commissioned sites to be lifted. CAR-T to be delivered at all Autologous and Allogenic Centres.	
Stakeholder Testing	Most stakeholders (86%) agreed that all Autologous and Allogenic transplant sites should be allowed to provide the treatment for CAR-T.	No change required. The expansion of the CAR-T commissioned sites will be reviewed as part of the longer-term plan within the Innovative Treatments Team.

Stakeholder Testing	One pharmaceutical company noted that CAR-T should not be restricted to 23 commissioned sites only and the service should be expanded to include all non-transplant and all autologous centres (in addition to existing allogeneic centres) that have experience in managing CAR-T adverse events. The stakeholders mentioned that flexibility should be allowed for access to apheresis, which is currently overwhelmed.	No change required. The expansion of the CAR-T commissioned sites will be reviewed as part of the longer-term plan within the Innovative Treatments Team. The Department of Health and Social Care is conducting an apheresis working group that will examine capacity issues for apheresis.
Stakeholder Testing	A commissioner from a devolved nation has highlighted that CAR-T is delivered at all autologous and allogenic centres as current practice in Scotland and would support this for England	No change required. The expansion of the CAR-T commissioned sites will be reviewed as part of the longer-term plan within the Innovative Treatments Team.
Stakeholder Testing	A paediatric patient group has commented that paediatric sites for CAR-T delivery should be expanded as restrictions are creating problems for patients and families. It is the consensus of this group that established HSCT centres which meet JACIE accreditation should be allowed to offer CAR-T treatment. The BMT CRG comments also aligned with this viewpoint.	No change required. The expansion of the CAR-T commissioned sites will be reviewed as part of the longer-term plan within the Innovative Treatments Team.
	Other comments on the service specification	
Stakeholder Testing	A pharmaceutical company requested to publish 'Future approach to CAR-T Tariff design – Final Options Appraisal' alongside the service specification.	No action is required as this document is deemed as commercial-in-confidence and will not be provided to stakeholders outside of the NHS.
Stakeholder Testing	One stakeholder noted that palliative care should be a dedicated part of the service as a vital source of emotional, psychological and symptom support for patients.	No change required. Palliative care element of the patient pathway is already recommended as an MDT addition in the service specification on page 17.
Stakeholder Testing	Two stakeholders have noted that tocilizumab does not require 4 doses.	This has been checked with all the licensed CAR-T summary of product characteristics and the service specification has been amended.

Stakeholder Testing	Two stakeholders commented that the specification should include NICE guidance for Axicabtagene (TA895), Brexucabtagene (TA893) and the NICE guidance relating to Tisagenlecleucel (TA567) should be removed as the product is no longer available in the UK.	This section has been updated to add new CAR-T therapies and those that are no longer available in the NHS.
Stakeholder Testing	A stakeholder noted that post-pubescent patients should be assessed, and it should be in their best interest to be treated at an adult centre.	The wording has been amended to make this element clearer.
Stakeholder Testing	One stakeholder highlighted the importance of monitoring CAR-T cells in patients.	This has not been included as clinical discretion should be applied.
Stakeholder Testing	The CAR-T core team needs to include haematologists with expertise in management of B-cell malignancies as appropriate for the product being infused i.e. B-cell precursor acute lymphoblastic leukaemia or B-NHL including but not restricted to chemotherapy to help guide decision-making about bridging chemotherapy and any anti-cancer therapy post CART infusion	An update has been made to the service specification to include haematologists with appropriate expertise as required.
Stakeholder Testing	Minor typos and amendments to wording. Specific updates to allow for clinician discretion for certain elements of the patient treatment pathway.	The service specification has been updated. Please see the significant changes that have been made in below section 5.
	Suggested amendments to metric	
Stakeholder Testing	Suggestion from one stakeholder to look at day 100 cytopenia's as this would be more informative than day 30 cytopenia's	This has been noted, and clinical experts are being consulted on this suggested change.
Stakeholder Testing	Removal of CART12: Average time from referral to clinical review.	This has been noted, and clinical experts are being consulted on this suggested change
Stakeholder Testing	CART14 need to state the grade of cytopenia (as per National Clinical CAR-T Panel guidelines), its onset and the resolution	This has been noted, and clinical experts are being consulted on this suggested change

5 Has anything changed in the service specification because of the stakeholder testing and consultation?

The following change(s) based on the engagement responses have been made to the service specification:

- Page 1 – Change in wording from

  'Where the NICE TA is for a cancer topic, Adult CAR-T centre aligning with the teenager and young adult cancer service specification, other than those providers directly commissioned by NHS England to provide paediatric CAR-T services, can potentially treat patients under 18; but only where the patient is assessed as being post-pubescent and therefore suitable for being treated in an adult setting following the usual treatment pathway for adult patients.'

  to

  'Where the NICE TA is for a cancer topic, Adult CAR-T centre aligning with the teenager and young adult cancer service specification, other than those providers directly commissioned by NHS England to provide paediatric CAR-T services, can potentially treat patients under 18. This should only be the case where this move will be in the best interest of the patient after the patient has been adequately assessed as being post-pubescent and suitable for being treated in an adult setting which will follow the usual treatment pathway for adult patients.'

- Page 10 - 'Frequent daily monitoring is required at commissioned CAR-T providers during the inpatient stay for signs of CRS and ICANS and for signs and symptoms of CRS and neurologic toxicities for 4 weeks after infusion.' changed to 'Frequent monitoring is required at commissioned CAR-T providers during the inpatient stay for signs of CRS and ICANS and for signs and symptoms of CRS and neurologic toxicities for 4 weeks after infusion.'

- Page 10 – link to Healthcare Travel Costs Scheme added to provide further information. 'Staff should be familiar with the travel costs under the Healthcare Travel Costs Scheme (HTCS) and be able to advise families about accommodation in or near the hospital. Further information can be found here: Healthcare Travel Costs Scheme (HTCS) - NHS'

- Page 11 – tocilizumab dosing. Changed from 'at least 4 doses' to 'at least '1 dose'

- Page 13 - '24-hour availability of a carer is mandatory during the post discharge 4-week monitoring period' changed to '24-hour availability of a carer is mandatory during the post infusion 4-week monitoring period'
- Page 13 – Clinician flexibility allowed for when ITU input is needed if immune effector cell associated neurotoxicity syndrome occurs. 'Patients with grade 2 immune effector cell associated neurotoxicity syndrome (ICANS) and above

should be discussed with the critical care (adults or paediatrics) lead, as required, and have immediate access to an age-appropriate critical care as needed.'

- Page 17 – Minor changes to the CAR-T core team with the addition of 'a haematologist with disease specific expertise as required'

- Page 19 – NICE guidance section updated from:

- Tisagenlecleucel for treating relapsed or refractory B-cell acute lymphoblastic leukaemia in people aged up to 25 years (TA554), published December 2018 https://www.nice.org.uk/guidance/ta554
- Axicabtagene ciloleucel for treating diffuse large B-cell lymphoma and primary mediastinal large B-cell lymphoma after 2 or more systemic therapies (TA559), published January 2019 https://www.nice.org.uk/guidance/ta559
- Tisagenlecleucel for treating relapsed or refractory diffuse large B-cell lymphoma after 2 or more systemic therapies (TA567), published March 2019 https://www.nice.org.uk/guidance/ta567
- Autologous anti-CD19-transduced CD3+ cells for treating relapsed or refractory mantle cell lymphoma (TA677), published February 2021 https://www.nice.org.uk/guidance/ta677

to:

- Autologous anti-CD19-transduced CD3+ cells for treating relapsed or refractory mantle cell lymphoma (TA677), published February 2021 **https://www.nice.org.uk/guidance/ta677**
- Axicabtagene ciloleucel for treating diffuse large B-cell lymphoma and primary mediastinal large B-cell lymphoma after 2 or more systemic therapies, published February 2023, **https://www.nice.org.uk/guidance/ta872**
- Brexucabtagene autoleucel for treating relapsed or refractory B-cell acute lymphoblastic leukaemia in people 26 years and over, published June 2023, **https://www.nice.org.uk/guidance/ta893**
- Axicabtagene ciloleucel for treating relapsed or refractory follicular lymphoma, published June 2023, **https://www.nice.org.uk/guidance/ta894**
- Axicabtagene ciloleucel for treating relapsed or refractory diffuse large B-cell lymphoma after first-line chemoimmunotherapy, published June 2023, **https://www.nice.org.uk/guidance/ta895**
- Tisagenlecleucel for treating relapsed or refractory B-cell acute lymphoblastic leukaemia in people 25 years and under, published May 2024**,** **https://www.nice.org.uk/guidance/ta975**
- Lisocabtagene maraleucel for treating relapsed or refractory large B-cell lymphoma after first-line chemoimmunotherapy when a stem cell transplant is suitable, published March 2025 **https://www.nice.org.uk/guidance/ta1048**

6 Are there any remaining concerns outstanding following the consultation that have not been resolved in the final service specification?

No

7 What are the next steps including how interested stakeholders will be kept informed of progress?

Stakeholders will be notified when the service specification is published. At this point, the engagement report will also be published outlining how feedback has been considered and responded to. At this stage no further engagement is planned.