CarePartners of Connecticut MEDICARE ADVANTAGE

Medical Necessity Guidelines
Medical Benefit Drugs

Lyfgenia® (lovotibeglogene autotemcel)

Effective: January 1, 2026

Prior Authorization Required If REQUIRED, submit supporting clinical documentation pertinent to service request.	Yes ☒ No ☐

Applies to:

☒ CarePartners of Connecticut Medicare Advantage HMO plans, Fax 617-673-0956
☒ CarePartners of Connecticut Medicare Advantage PPO plans, Fax 617-673-0956

Note: While you may not be the provider responsible for obtaining prior authorization, as a condition of payment you will need to ensure that prior authorization has been obtained.

Overview

Sickle cell disease (SCD) is a group of inherited debilitating blood disorders caused by a mutation in the β-globin gene that leads to the production of abnormal sickle shaped hemoglobin (HbS). In SCD, the sickled RBCs become rigid, undergo premature hemolysis leading to anemia, and become unable to transport oxygen to critical organs. The condition affects more than 100,000 people in the United States with an incidence of about 1 in every 365 Black births and 1 in every 16,300 Hispanic-American births.

Severely affected patients may experience diverse complications such as severe anemia, repeated acute painful vaso-occlusive events (VOEs) due to small-vessel obstruction (vaso-occlusive crises [VOCs]; sickle cell crises), acute chest syndrome (ACS; acute event with pneumonia-like symptoms), cerebral vasculopathy, chronic organ damage that may involve e.g., the bones, kidneys, heart, liver, and lungs or result in severe infectious complications such as functional hyposplenism and premature death. Treatment includes measures to control complications, relieve pain, prevent infections, and minimize organ damage. Standard pharmacologic treatment has included medications, such as hydroxyurea (Hydrea), analgesics and blood transfusions. Hematopoietic stem cell transplantation for patients with an appropriate donor, until the development of gene therapy, has been an option for cure. Gene therapies now offer a treatment option for members with severe sickle cell disease who do not have a willing HLA matched family donor.

Food and Drug Administration (FDA) Approved Indications:

- Lyfgenia is an autologous hematopoietic stem cell-based gene therapy indicated for the treatment of patients 12 years of age or older with sickle cell disease and a history of vaso-occlusive events.

Lyfgenia uses an ex vivo lentiviral vector gene therapy which adds a functional copy of a modified βA-globin gene (threonine [T] into patients' HSCs through transduction of autologous CD34+ cells with BB305 LVV. After Lyfgenia infusion, the transduced CD34+ HSCs engraft in the bone marrow and differentiate to produce red blood cells containing biologically active βA-T87Q-globin that will combine with α-globin to produce functional Hb containing βA-T87Q-globin (HbAT87Q). HbAT87Q has similar oxygen-binding affinity and oxygen hemoglobin dissociation curve to wild-type HbA, reduces intracellular and total hemoglobin S (HbS) levels, and is designed to inhibit polymerization of HbS thereby limiting the sickling of red blood cells.

NOTE: Lyfgenia can only be administered at a Lyfgenia Qualified Treatment Center (QTC). Each Lyfgenia QTC has been carefully selected based on their expertise in areas such as transplant, cell, and gene therapy. For information on locating a Qualified Treatment Center, please go to https://www.lyfgenia.com/find-a-qualified-treatment-center

The Plan uses guidance from the Centers for Medicare and Medicaid Services (CMS) and MassHealth for coverage determinations for its Dual Product Eligible plan members and CMS for its Medicare Advantage plan members. CMS National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), Local Coverage Articles (LCAs) and documentation included in the Medicare manuals and MassHealth Medical Necessity Determinations are the basis for coverage determinations. When CMS and MassHealth do not provide guidance, the Plan's internally developed medical necessity guidelines are used. CMS coverage guidelines is not established for this service. Point32Health covers Lyfgenia in accordance with MassHealth coverage criteria.

For Lyfgenia, evidence is sufficient for coverage. Lyfgenia received FDA approval in December 2023 based on results from a single-arm, 24-month multicenter study in patients with sickle cell disease and history of vasco-occlusive events between the ages of 12 and 50 years old. Effectiveness was evaluated based on complete resolution of VOEs (VOE-CR) between 6 and 18 months after infusion with Lyfgenia. Twenty-eight (88%) of 32 patients achieved VOE-CR during this time period.

The use of this criteria in the utilization management process will ensure access to evidence based clinically appropriate care. See References section below for all evidence accessed in the development of these criteria.

Clinical Guideline Coverage Criteria

The Plan may cover Lyfgenia for sickle cell disease when **all** the following clinical criteria is met:

1. Member has a diagnosis of sickle cell disease; **and**
2. Member has genetic test confirming diagnosis of SCD; **and**
3. Prescriber is a hematologist or consult notes from a hematologist are provided
4. Member is at least 12 years of age**; and**
5. Member has history of ≥ 2 sickle cell crises (also referred to as vaso-occlusive crises or vas-occlusive events) per year in the last 2 years. Examples of sickle cell crises include:
    a. Acute pain events requiring a visit to a medical facility with administration of pain medications or red blood cell transfusions
    b. Acute chest syndrome
    c. Priapism requiring a visit to a medical facility
    d. Splenic sequestration
6. ONE of the following:
    a. Inadequate response to hydroxyurea therapy at the maximally tolerated dose for at least three months (Dose titration can be up to a maximum of 35 mg/kg/day or until mild myelosuppression (e.g., ANC 2,000/uL to 4,000/uL, platelet count < 80,000/uL, reticulocyte count < 80 x 109/L); **and**
    b. Adverse reaction or contraindication to hydroxyurea
7. Medical necessity for use of requested agent instead of Casgevy; **and**
8. Member has a negative serology test for HIV ; **and**
9. Member does not have a-thalassemia trait (-α3.7/-α3.7); **and**
10. Appropriate dosing and treatment dates (Member's weight and dates must be provided); **and**
11. Infusion will take place in a Qualified Treatment Facility (Requests should include anticipated apheresis and infusion dates as well as anticipated admission and discharge dates (as applicable to inpatient administration). **And**
12. Member is clinically stable and eligible for allogenic hematopoietic stem cell transplantation (HSCT); **and**
13. Member has not received any prior SCD gene therapy.

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Limitations

- Authorization of Lyfgenia is limited to one single dose treatment

Codes

The following code(s) require prior authorization:

Table 1: HCPCS Codes

HCPCS Codes	Description
J3394	Injection, lovotibeglogene autotemcel, per treatment

References:

1. A Study Evaluating the Safety and Efficacy of bb1111 in Severe Sickle Cell Disease; NCT02140554. Accessed at https://classic.clinicaltrials.gov/ct2/show/NCT02140554?term=NCT02140554&draw=2&rank=1 accessed February 1, 2024.
2. Lyfgenia (lovotibeglogene autotemcel). [package insert]. Somerville, MA: bluebird bio Inc; Dec 2023.
3. New Drug Review: Lyfgenia (lovotibeglogene autotemcel). IPD Analytics. January 2024.
4. Kanter J, et. al. Lovo-cel gene therapy for sickle cell disease: Treatment process evolution and outcomes in the initial groups of the HGB-206 study. Am J Hematol. 2023 Jan;98(1):11-22. doi: 10.1002/ajh.26741. Epub 2022 Oct 10. PMID: 36161320; PMCID: PMC10092845.
5. Herring WL, et. al. Cost-Effectiveness of Lovotibeglogene Autotemcel (Lovo-Cel) Gene Therapy for Patients with Sickle Cell Disease and Recurrent Vaso-Occlusive Events in the United States. Pharmacoeconomics. 2024 Jun;42(6):693-714. doi: 10.1007/s40273-024-01385-9. Epub 2024 Apr 29. PMID: 38684631; PMCID: PMC11126463.

Approval And Revision History

February 21, 2024: Reviewed by the Medical Policy Approval Committee (MPAC), effective April 1, 2024
Subsequent endorsement date(s) and changes made:

- April 19, 2024: Reviewed and approved by UM Committee
- May 15, 2024: Reviewed by MPAC, criteria update to align with MassHealth criteria and administrative update per AMA HCPCS code J3394 added, effective July 1, 2024
- June 13, 2024: Reviewed and approved by UM Committee effective July 1, 2024
- November 21, 2024: Reviewed by MPAC. Criteria update to align with MassHealth criteria. Effective January 1, 2025.
- December 13, 2024: Reviewed and approved by the UM Committee, effective January 1, 2025
- November 19, 2025: Reviewed by MPAC for annual review, renewed without changes, references updated, effective January 1, 2026
- December 8, 2025: Reviewed by UM Committee for annual review, renewed without changes effective January 1, 2026

Background, Product and Disclaimer Information

Medical Necessity Guidelines are developed to determine coverage for benefits and are published to provide a better understanding of the basis upon which coverage decisions are made. We make coverage decisions using these guidelines, along with the Member's benefit document, and in coordination with the Member's physician(s) on a case-by-case basis considering the individual Member's health care needs.

Medical Necessity Guidelines are developed for selected therapeutic or diagnostic services found to be safe and proven effective in a limited, defined population of patients or clinical circumstances. They include concise clinical coverage criteria based on current literature review, consultation with practicing physicians in our service area who are medical experts in the particular field, FDA and other government agency policies, and standards adopted by national accreditation organizations. We revise and update Medical Necessity Guidelines annually, or more frequently if new evidence becomes available that suggests needed revisions.

Treating providers are solely responsible for the medical advice and treatment of Members. The use of this guideline is not a guarantee of payment or a final prediction of how specific claim(s) will be adjudicated. Claims payment is subject to eligibility and benefits on the date of service, coordination of benefits, referral/authorization, utilization management guidelines when applicable, and adherence to plan policies, plan procedures, and claims editing logic.