**MVP Health Care Medical Policy**

**Medicare Part B: Casgevy (Exagamglogene Autotemcel)**

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| **Type of Policy:** | Medical Therapy (administered by the pharmacy department) |
| **Prior Approval Date:** | NA |
| **Approval Date:** | 06/01/2024 |
| **Effective Date:** | 06/01/2024 |
| **Related Policies:** | Lyfgenia, Adakveo |

Refer to the MVP Medicare website for the Medicare Part D formulary and Part D policies.

## Drugs Requiring Prior Authorization under the medical benefit

J3590 Casgevy (Exagamglogene Autotemcel)

## Overview

Casgevy (Exagamglogene Autotemcel)as is an autologous genome edited hematopoietic stem cell-based gene therapy for patients with sickle cell disease suffering from vaso-occlusive crisis and transfusion dependent beta-thalassemia. A vaso occlusive crisis is a potentially life-threatening complication caused when sickled red blood cells hinder blood flow causing pain, and lack of oxygen delivery to tissue. Transfusion-dependent beta thalassemia is a blood disorder in which an individual has two missing or defective beta-globin genes which leads to low hemoglobin levels and ultimately a lack of oxygen supply to tissues. Individuals with this condition require lifelong blood transfusions and over time, an influx of iron-containing hemoglobin from chronic blood transfusions can lead to liver, heart, and hormone problems. Casgevy is manufactured specifically for an individual using their own blood stem cells. The treatment course consists of multiple phases including cell mobilization and apheresis to collect CD34+ cells to be edited by CRISPR/Cas9 technology, myeloablative conditioning, and the modified cells are returned to the patient via IV infusions. The

modified cells engraft in the bone marrow resulting in reduced BCL11A expression, increased fetal hemoglobin, and reduced adult hemoglobin. The modified cells prevents red blood cells from sickling and causing vaso-occlusive crises and allows for patients with transfusion dependent beta-thalassemia to potentially become transfusion independent.

**Medicaid Variation:** Medications that are a pharmacy benefit are covered and billed to New York State Fee-For-Service (FFS) program. They are defined as medications that go through a retail or specialty pharmacy, including self-administered injectable products. Pharmacy medications are subject to FFS's clinical criteria including (but not limited to) coverage, quantity limit, step therapy, and prior authorization. Pharmacy benefit information can be found here: https://www.emedny.org/info/fullform.pdf

**Indications/Criteria**

**A. For all indications, the following criteria must be met in addition to the specific diagnosis criteria below**

- Prescribed by a board-certified hematologist
- Hospitals administering Casgevy must be appropriately authorized to do so. Please see link for treatment centers: CASGEVY™ (exagamglogene autotemcel) Authorized Treatment Centers | Official HCP Website (casgevyhcp.com)
- Member has not received previous gene therapy for SCD or TDT (such as Lyfgenia)
- Documentation that that the member has not received a prior allogeneic or autologous HSC transplant AND is not being considered for other gene or investigational therapies for SCD or TDT.

**B. Sickle Cell Disease (SCD) with recurrent vaso-occlusive crises**

Casgevy will be considered for coverage for SCD with recurrent vaso-occlusive crises when ALL of the following criteria is met:

- Member has failed to match with a human leukocyte antigen (HLA) match related hematopoietic stem cell donor
- Member is ≥ 12 years old
- Chart notes documenting a  diagnosis of sickle cell disease (SCD)
- Chart notes documenting ≥ 4 severe vaso-occlusive crises in the 2 years prior to screening while adhering to previous SCD therapy, defined as:

    - Acute pain requiring a visit to a medical facility and administration of pain medications (opioid or IV non-steroidal anti-inflammatory drugs [NSAIDs]) or RBC transfusion
    - Acute chest syndrome
    - Priapism lasting >2 hours and requiring visit to a medical facility
    - Splenic sequestration
- Chart notes documenting that the member does not have liver or renal impairment which is documented with current renal and liver function tests
    - Renal impairment (defined as creatinine clearance ≤60mL/min/1.73m$^2$)
    - Examples of advanced liver impairment
        - Alanine transaminase > 3 times upper limit of normal
        - Direct bilirubin value > 2.5 times upper limit of normal
        - Baseline prothrombin time (international normalized ratio [INR]) > 1.5 times upper limit of normal
        - Cirrhosis
        - Bridging fibrosis
        - Active hepatitis
- Chart notes documenting that the member has tried and failed other sickle cell disease treatment (such as hydroxyurea, Adakveo, Oxbryta, Endari) ) up to the maximally indicated dose for ≥6 months. Documentation must include dates of use.
- Provider confirmation that full myeloablative conditioning would occur prior to Casgevy administration
- For female members, a negative serum pregnancy test must be confirmed
- Documented provider attestation confirming that the member is an appropriate candidate for hematopoietic stem cell (HSC) transplantation
- Chart notes documenting that the member has a current negative screening for the following: HIV-1, HIV-2, HBV, or HCV. Documentation must indicate that the member does not have active HIV-1, HIV-2, HBV, or HCV.
- Members aged 12 – 16 years old must have documented normal transcranial doppler (TCD)
- Current documentation that the member does not have any active bacterial, viral, fungal, or parasitic infection(s)
- Treatment centers administering Casgevy must be appropriately certified to do so. Please see link for treatment centers: CASGEVY™

(exagamglogene autotemcel) Authorized Treatment Centers | Official HCP Website (casgevyhcp.com)

Casgevy will be approved as a one-time dose within 6 months. Requests for replacement due to lost or damaged product will not be covered. Coverage is contingent on eligibility at the time of infusion.

**C. Transfusion Dependent β-Thalassemia (TDT)**

Casgevy will be considered for coverage for TDT when ALL of the following criteria is met:

- Chart notes documenting a confirmed diagnosis of Transfusion Dependent β- Thalassemia (TDT)
- Documentation that the member does not have a 10/10 human leukocyte antigen-matched donor
- Member is ≥ 12 years old
- Member is eligible for autologous hematopoietic stem cell transplantation (HSCT)
- Chart notes documenting that the member has a history of requiring ≥100 mL/kg/year or ≥10 units/year of red blood cell transfusions in the previous 2 years
- Provider confirmation that full myeloablative conditioning would occur prior to Casgevy administration
- Member does not have liver or renal impairment which is documented with current renal and liver function tests:
    - Left ventricular ejection fraction >45%
    - Liver Function tests
        - AST or ALT >3 times the upper limit of normal (ULN)
        - Direct bilirubin value >2.5 x ULN
        - Bridging Fibrosis or Cirrhosis
- For female members, a negative serum pregnancy test must be confirmed
- Documented provider attestation confirming that the member is an appropriate candidate for hematopoietic stem cell (HSC) transplantation
- Chart notes documenting that the member has a current negative screening for the following: HIV-1, HIV-2, HBV, or HCV. Documentation must indicate that the member does not have active HIV-1, HIV-2, HBV, or HCV.

- Current documentation that the member does not have any active bacterial, viral, fungal, or parasitic infection(s)
- Treatment centers administering Casgevy must be appropriately certified to do so. Please see link for treatment centers: CASGEVY™ (exagamglogene autotemcel) Authorized Treatment Centers | Official HCP Website (casgevyhcp.com)

Casgevy will be approved as a one-time dose within 6 months. Requests for replacement due to lost or damaged product will not be covered. Coverage is contingent on eligibility at the time of infusion.

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**Exclusions**

The use of Casgevy will not be covered for members with **Sickle Cell Disease** in the following situations:

- Age, dose, frequency of dosing, and/or duration of therapy outside of FDA approved package labeling
- Use in combination with other autologous genome edited hematopoietic stem cell-based gene therapies such as Lyfgenia
- Members with renal deficiency
- Members with hepatic deficiency
- Member is pregnant or planning on becoming pregnant
- Member not an appropriate candidate for hematopoietic stem cell transplantation
- Member has received prior allogeneic or autologous HSC transplant
- Member has tested positive for or has active HIV-1, HIV-2, HBV,or HCV
- Members with active bacterial, viral, fungal, or parasitic infections
- Members with history of untreated Moyamoya disease or presence of Moyomoya disease that puts the patient at risk for bleeding
- Members aged 12 – 18 years old with abnormal TCD

The use of Casgevy will not be covered for members with **Transfusion Dependent β-Thalassemia** in the following situations:

- Age, dose, frequency of dosing, and/or duration of therapy outside of FDA approved package labeling
- Use in combination with other autologous genome edited hematopoietic stem cell-based gene therapies such as Lyfgenia

- Members with renal deficiency
- Members with hepatic deficiency
- Member is pregnant or planning to become pregnant
- Member not an appropriate candidate for hematopoietic stem cell transplantation
- Member has received prior allogeneic or autologous HSC transplant
- Member has tested positive for or has active HIV-1, HIV-2, HBV,or HCV
- Members with active bacterial, viral, fungal, or parasitic infections
- Sickle cell β-thalassemia variant or associated α-thalassemia and >1 alpha deletion or alpha multiplications
- Severely elevated iron in the heart (ie, patients with cardiac T2* less than 10 msec by MRI or LVEF <45% by echocardiogram) or advanced liver disease*

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**References**


1. Angelicapeebles. (2023, December 8). *U.S. approves first gene-editing treatment, Casgevy, for sickle cell disease*. CNBC. https://www.cnbc.com/2023/12/08/casgevy-first-crispr-gene-editing-treatment-approved-in-us.html
2. Commissioner, O. of the. (n.d.). *FDA approves first gene therapies to treat patients with sickle cell disease*. U.S. Food and Drug Administration. https://www.fda.gov/news-events/press-announcements/fda-approves-first-gene-therapies-treat-patients-sickle-cell-disease
3. *Study design for CASGEVYTM (exagamglogene autotemcel): Official HCP website*. CASGEVY. (n.d.). https://www.casgevyhcp.com/sickle-cell-disease/trial-design
4. Vertex Pharmaceuticals. (2024, January). Casgevy (Exagamglogene Autotemcel) Package Insert. https://pi.vrtx.com/files/uspi_exagamglogene_autotemcel.pdf