

## Clinical Policy: Lanadelumab-fylo (Takhzyro)

Reference Number: HIM.PA.172

Effective Date: 01.01.24

Last Review Date: 08.24

Line of Business: HIM

[Coding Implications](#)  
[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

### Description

Lanadelumab-fylo (Takhzyro<sup>®</sup>) is a human monoclonal antibody that inhibits the proteolytic activity of kallikrein to reduce the generation of bradykinin.

### FDA Approved Indication(s)

Takhzyro is indicated for prophylaxis to prevent attacks of hereditary angioedema (HAE) in adult and pediatric patients 2 years and older.

### Policy/Criteria

*Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.*

It is the policy of health plans affiliated with Centene Corporation<sup>®</sup> that Takhzyro is **medically necessary** when the following criteria are met:

#### I. Initial Approval Criteria

##### A. Hereditary Angioedema (must meet all):

1. Diagnosis of HAE confirmed by a history of recurrent angioedema and one of the following (a or b):
  - a. Low C4 level and low C1-INH antigenic or functional level (*see Appendix D*);
  - b. Normal C4 level and normal C1-INH level, and at least one of the following (i or ii):
    - i. Presence of a mutation associated with the disease (*see Appendix D*);
    - ii. Family history of angioedema, and documented failure of high-dose antihistamine therapy (i.e., cetirizine 40 mg/day or equivalent) for at least 1 month or an interval expected to be associated with 3 or more attacks of angioedema, whichever is longer;
2. Prescribed by or in consultation with an allergist, hematologist, or immunologist;
3. Age  $\geq$  2 years;
4. Prescribed for long-term prophylaxis of HAE attacks and request meets one of the following (a, b, or c):
  - a. Member experiences more than one severe event per month;
  - b. Member is disabled more than five days per month;
  - c. Member has history of previous airway compromise;
5. Member is not using Takhzyro in combination with another FDA-approved product for long-term prophylaxis of HAE attacks (e.g., Cinryze<sup>®</sup>, Haegarda<sup>®</sup>, Orladeyo<sup>™</sup>);

6. Dose does not exceed one of the following (a, b, or c):
  - a. For adult and pediatric members  $\geq 12$  years of age, both (i and ii):
    - i. 300 mg every 2 weeks;
    - ii. 1 vial or 1 syringe every 2 weeks;
  - b. For pediatric members 6 to  $< 12$  years of age, both (i and ii):
    - i. 150 mg every 2 weeks;
    - ii. 1 syringe every 2 weeks;
  - c. For pediatric members 2 to  $< 6$  years of age, both (i and ii):
    - i. 150 mg every 4 weeks;
    - ii. 1 syringe every 4 weeks.

**Approval duration: 6 months**

**B. Other diagnoses/indications (must meet 1 or 2):**

1. If this drug has recently (within the last 6 months) undergone a label change (e.g., newly approved indication, age expansion, new dosing regimen) that is not yet reflected in this policy, refer to one of the following policies (a or b):
  - a. For drugs on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the no coverage criteria policy for the relevant line of business: HIM.PA.33 for health insurance marketplace; or
  - b. For drugs NOT on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the non-formulary policy for the relevant line of business: HIM.PA.103 for health insurance marketplace; or
2. If the requested use (e.g., diagnosis, age, dosing regimen) is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized) AND criterion 1 above does not apply, refer to the off-label use policy for the relevant line of business: HIM.PA.154 for health insurance marketplace.

**II. Continued Therapy**

**A. Hereditary Angioedema (must meet all):**

1. Member meets one of the following (a or b):
  - a. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
  - b. Member is currently receiving medication and is enrolled in a state and product with continuity of care regulations (*refer to state specific addendums for CC.PHARM.03A and CC.PHARM.03B*);
2. Member is responding positively to therapy as evidenced by reduction in attacks from baseline;
3. Member is not using Takhzyro in combination with another FDA-approved product for long-term prophylaxis of HAE attacks (e.g., Cinryze, Haegarda, Orladeyo);
4. For age 6 years to  $< 12$  years: Request is for 150 mg every 4 weeks, unless documentation supports member is not well-controlled (e.g., attack(s) within the last 6 months);
5. For age  $\geq 12$  years: Request is for 300 mg every 4 weeks, unless documentation supports member is not well-controlled (e.g., attack(s) within the last 6 months);

6. If request is for a dose increase, new dose does not exceed one of the following (a, b, or c):
  - a. For adult and pediatric members  $\geq 12$  years of age, both (i and ii):
    - i. 300 mg every 2 weeks;
    - ii. 1 vial or 1 syringe every 2 weeks;
  - b. For pediatric members 6 to  $< 12$  years of age, both (i and ii):
    - i. 150 mg every 2 weeks;
    - ii. 1 syringe every 2 weeks;
  - c. For pediatric members 2 to  $< 6$  years of age, both (i and ii):
    - i. 150 mg every 4 weeks;
    - ii. 1 syringe every 4 weeks.

**Approval duration: 12 months**

**B. Other diagnoses/indications (must meet 1 or 2):**

1. If this drug has recently (within the last 6 months) undergone a label change (e.g., newly approved indication, age expansion, new dosing regimen) that is not yet reflected in this policy, refer to one of the following policies (a or b):
  - a. For drugs on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the no coverage criteria policy for the relevant line of business: HIM.PA.33 for health insurance marketplace; or
  - b. For drugs NOT on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the non-formulary policy for the relevant line of business: HIM.PA.103 for health insurance marketplace; or
2. If the requested use (e.g., diagnosis, age, dosing regimen) is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized) AND criterion 1 above does not apply, refer to the off-label use policy for the relevant line of business: HIM.PA.154 for health insurance marketplace.

**III. Diagnoses/Indications for which coverage is NOT authorized:**

- A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policies – HIM.PA.154 for health insurance marketplace or evidence of coverage documents.

**IV. Appendices/General Information**

*Appendix A: Abbreviation/Acronym Key*

CI-INH: C1 esterase inhibitor

C4: complement component 4

FDA: Food and Drug Administration

HAE: hereditary angioedema

HAE-nl-C1INH: hereditary angioedema  
with normal C1 inhibitor

*Appendix B: Therapeutic Alternatives*

*This table provides a listing of preferred alternative therapy recommended in the approval criteria. The drugs listed here may not be a formulary agent for all relevant lines of business and may require prior authorization.*

| Drug Name  | Dosing Regimen   | Dose Limit/<br>Maximum Dose |
|------------|--|-----------------------------|
| cetirizine | 40 mg/day (off-label)<br>Typical dosing range (mg/day): 10 mg/day<br><i>US HAEA Medical Advisory Board 2020 Guidelines for the Management of Hereditary Angioedema</i> | 40 mg/day (off-label)       |

*Therapeutic alternatives are listed as Brand name<sup>®</sup> (generic) when the drug is available by brand name only and generic (Brand name<sup>®</sup>) when the drug is available by both brand and generic.*

*Appendix C: Contraindications/Boxed Warnings*

None reported

*Appendix D: General Information*

- Diagnosis of HAE:
  - There are two classifications of HAE: HAE with C1-INH deficiency (HAE-C1INH, further broken down into Type I and Type II) and HAE with normal C1-INH (also known as HAE-nl-C1INH). HAE-nl-C1INH was previously referred to as type III HAE, but this term is obsolete and should not be used.
  - In both Type I (~85% of cases) and Type II (~15% of cases), C4 levels are low. C1-INH antigenic levels are low in Type I while C1-INH functional levels are low in Type II. Diagnosis of Type I and II can be confirmed with laboratory tests. Reference ranges for C4 and C1-INH levels can vary across laboratories (see below for examples); low values confirming diagnosis are those which are below the lower end of normal.

| Laboratory Test & Reference Range | Mayo Clinic   | Quest Diagnostics                                       | Lab Corp  |
|-----------------------------------|---|---|---|
| C4                                | 14 – 40 mg/dL   | 13-57 mg/dL (age- and gender-specific ranges)           | 10-38 mg/dL (age- and gender-specific ranges)           |
| C1-INH, antigenic                 | 19 – 37 mg/dL   | 21 – 39 mg/dL   | 21 – 39 mg/dL   |
| C1-INH, functional                | Normal: > 67%<br>Equivocal: 41 – 67%<br>Abnormal: < 41% | Normal: ≥ 68%<br>Equivocal: 41 – 67%<br>Abnormal: ≤ 40% | Normal: > 67%<br>Equivocal: 41 – 67%<br>Abnormal: < 41% |

- HAE-nl-C1INH, on the other hand, presents with normal C4 and C1-INH levels. Some patients have a known associated mutation, while others have no identified genetic indicators. HAE-nl-C1INH is very rare, and there are no laboratory tests to confirm the diagnosis; mutations in 6 genes causing HAE-nl-C1INH have been identified:

| Identified Genes Associated with Mutations in HAE-nI-C1INH |
|--|
| <i>F12</i>   |
| <i>ANGPT1</i>  |
| <i>PLG</i>   |
| <i>KNG1</i>  |
| <i>MYOF</i>  |
| <i>HS3ST6</i>  |

## V. Dosage and Administration

| Indication             | Dosing Regimen  | Maximum Dose       |
|------------------------|---|--------------------|
| HAE attack prophylaxis | <p><u>Adult and pediatric patients ≥ 12 years of age</u><br/>300 mg SC every 2 weeks<br/>A dosing interval of 300 mg every 4 weeks may be considered if the patient is well-controlled (e.g., attack free) for more than 6 months</p> <p><u>Pediatric patients 6 to &lt; 12 years of age</u><br/>150 mg SC every 2 weeks<br/>A dosing interval of 150 mg every 4 weeks may be considered if the patient is well-controlled (e.g., attack free) for more than 6 months</p> <p><u>Pediatric patients 2 to &lt; 6 years of age</u><br/>150 mg SC every 4 weeks</p> | See dosing regimen |

## VI. Product Availability

- Single-dose vial: 300 mg/2 mL (150 mg/mL) solution
- Single-dose prefilled syringes: 300 mg/2 mL (150 mg/mL) solution, 150 mg/1 mL solution

## VII. References

1. Takhzyro Prescribing Information. Lexington, MA: Takeda Pharmaceuticals U.S.A., Inc; February 2023. Available at: <https://www.takhzyro.com>. Accessed May 8, 2024.
2. Maurer M, Magerl M, Betschel S, et al. The international WAO/EAACI guideline for the management of hereditary angioedema-The 2021 revision and update. *Allergy*. 2022;77(7):1961-1990.
3. Cicardi M, Aberer W, Banerji A, et al. Classification, diagnosis, and approach to treatment for angioedema: consensus report from the Hereditary Angioedema International Working Group. *Allergy*. 2014; 69(5): 602-616.
4. Zuraw B, Bernstein J, Lang D. A focused parameter update: Hereditary angioedema, acquired C1 inhibitor deficiency, and angiotensin-converting enzyme inhibitor-associated angioedema. *J Allergy Clin Immunol*. 2013; 131(6): 1491-3.
5. Busse PJ, Christiansen SC, Reidl MA, et al. US HAEA Medical Advisory Board 2020 Guidelines for the Management of Hereditary Angioedema. *J Allergy Clin Immunol*. 2021; 9(1): 132-150.e3.

6. Mayo Clinic Laboratories [internet database]. Rochester, Minnesota: Mayo Foundation for Medical Education and Research. Updated periodically. Accessed May 8, 2024.
7. Quest Diagnostics ® [internet database]. Updated periodically. Accessed May 8, 2024.
8. LabCorp [internet database]. Burlington, North Carolina: Laboratory Corporation of America. Updated periodically. Accessed May 8, 2024.

**Coding Implications**

Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

| HCPCS Codes | Description                       |
|-------------|-----------------------------------|
| J0593       | Injection, lanadelumab-flyo, 1 mg |

| Reviews, Revisions, and Approvals   | Date     | P&T Approval Date |
|---|----------|-------------------|
| Policy created per August SDC (adapted from CP.PHAR.396).                       | 08.22.23 | 12.23             |
| 3Q 2024 annual review: no significant changes; references reviewed and updated. | 05.08.24 | 08.24             |

**Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

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