

Clinical Policy: Elexacaftor/Ivacaftor/Tezacaftor; Ivacaftor (Trikafta)

Reference Number: GA.PMN.04 Effective Date: 10/2021 Last Review Date: 9/2024 Line of Business: Medicaid

Revision Log

See <u>Important Reminder</u> at the end of this policy for important regulatory and legal information.

Description

Elexacaftor/ivacaftor/tezacaftor (Trikafta[™]) is a triple combination drug for cystic fibrosis (CF).

- Elexacaftor and tezacaftor bind to different sites on the cystic fibrosis transmembrane conductance regulator (CFTR) protein and have an additive effect in facilitating the cellular processing and trafficking of F508del-CFTR to increase the amount of CFTR protein delivered to the cell surface compared to either molecule alone.
- Ivacaftor potentiates the channel open probability (or gating) of the CFTR protein at the cell surface.
- The combined effect of elexacaftor, tezacaftor, and ivacaftor is increased quantity and function of F508del-CFTR at the cell surface, resulting in increased *CFTR* activity as measured by CFTR mediated chloride transport.

FDA Approved Indication(s)

Trikafta is indicated for the treatment of cystic fibrosis (CF) in patients aged 2 years and older who have at least one *F508del* mutation in the *CFTR* gene or a mutation in the CFTR gene that is responsive based on *in vitro* data.

If the patient's genotype is unknown, an FDA-cleared CF mutation test should be used to confirm the presence of at least one *F508del* mutation or a mutation that is responsive based on *in vitro* data.

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[®] that Trikafta is **medically necessary** when the following criteria are met:

I. Initial Approval Criteria

- A. Cystic Fibrosis (must meet all):
 - 1. Diagnosis of CF confirmed by all of the following (a, b, and c):
 - a. Clinical symptoms consistent with CF in at least one organ system, or positive newborn screen or genetic testing for siblings of patients with CF;
 - b. Evidence of CFTR dysfunction confirmed by one of the following (i or ii) (*see Appendix D*):
 - i. Elevated sweat chloride $\geq 60 \text{ mmol/L}$;



- ii. Genetic testing confirming the presence of two disease-causing mutations in CFTR gene, one from each parental allele;
- c. Confirmation of one of the following (i or ii):
 - i. Member has at least one F508del mutation in the CFTR gene;
 - ii. Member has a mutation in the CFTR gene that is responsive to Trikafta based on *in vitro* data (*see Appendix E*);
- 2. Age \geq 2 years;
- 3. Prescribed by or in consultation with a pulmonologist;
- 4. Trikafta is not prescribed concurrently with other CFTR modulators (e.g., Orkambi[®], Kalydeco[®], Symdeko[®]);
- 5. Dose does not exceed one of the following (a, b, c, d, or e):
 - a. Age 2 to < 6 years and weight < 14 kg (both i and ii):
 - i. Elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 119.5 mg per day;
 - ii. One packet (elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 60 mg) of oral granules and one packet (ivacaftor 59.5 mg) of oral granules per day;
 - b. Age 2 to < 6 years and weight ≥ 14 kg (both i and ii):
 - i. Elexacaftor 100 mg/tezacaftor 50 mg/ ivacaftor 150 mg per day;
 - ii. One packet (elexacaftor 100 mg/tezcaftor 50 mg/ivacaftor 75 mg) oral granules and one packet (ivacaftor 75 mg) oral granules per day;
 - c. Age 6 to < 12 years and weight < 30 kg (both i and ii):
 - i. Elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 150 mg per day;
 - ii. 2 tablets (elexacaftor 50 mg/tezacaftor 25 mg/ivacaftor 37.5 mg) and 1 tablet (ivacaftor 75 mg) per day;
 - d. Age 6 to < 12 years and weight ≥ 30 kg (both i and ii):
 - i. Elexacaftor 200 mg/tezacaftor 100 mg/ivacaftor 300 mg per day;
 - ii. 2 tablets (elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) and 1 tablet (ivacaftor 150 mg) per day;
 - e. Age \geq 12 years (both i and ii):
 - i. Elexacaftor 200 mg/tezacaftor 100 mg/ivacaftor 300 mg per day;
 - ii. 2 tablets (elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) and 1 tablet (ivacaftor 150 mg) per day.

Approval duration: 4 months

B. Other diagnoses/indications

- 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: CP.CPA.190 for commercial, HIM.PA.33 for health insurance marketplace, and CP.PMN.255 for Medicaid; 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: CP.CPA.190 for commercial, HIM.PA.103 for health insurance marketplace, and CP.PMN.16 for Medicaid; 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: CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid.

II. Continued Therapy

- A. Cystic Fibrosis (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 one of the following (a or b, *see Appendix D*):
 - a. Stabilization or improvement (e.g., increase) in ppFEV1 from baseline;
 - b. For age < 6 years: Stabilization or improvement (e.g., decrease) in LCI from baseline;
 - 3. Trikafta is not prescribed concurrently with other CFTR modulators (e.g., Orkambi, Kalydeco, Symdeko);
 - 4. If request is for a dose increase, new dose does not exceed (a, b, c, d, or e):
 - a. Age 2 to < 6 years and weight < 14 kg (both i and ii):
 - i. Elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 119.5 mg per day;
 - One packet (elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 60 mg) of oral granules and one packet (ivacaftor 59.5 mg) of oral granules per day;
 - b. Age 2 to ≤ 6 years and weight ≥ 14 kg (both i and ii):
 - i. Elexacaftor 100 mg/tezacaftor 50 mg/ ivacaftor 150 mg per day;
 - ii. One packet (elexacaftor 100 mg/tezcaftor 50 mg/ivacaftor 75 mg) of oral granules and one packet (ivacaftor 75 mg) of oral granules per day;
 - c. Age 6 to < 12 years and weight < 30 kg (both i and ii):
 - i. Elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 150 mg per day;
 - ii. 2 tablets (elexacaftor 50 mg/tezacaftor 25 mg/ivacaftor 37.5 mg) and 1 tablet (ivacaftor 75 mg) per day;
 - d. Age 6 to < 12 years and weight ≥ 30 kg (both i and ii):
 - i. Elexacaftor 200 mg/tezacaftor 100 mg/ivacaftor 300 mg per day;
 - ii. 2 tablets (elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) and 1 tablet (ivacaftor 150 mg) per day;
 - e. Age \geq 12 years (both i and ii):
 - i. Elexacaftor 200 mg/tezacaftor 100 mg/ivacaftor 300 mg per day;
 - ii. 2 tablets (elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) and 1 tablet (ivacaftor 150 mg) per day.

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: CP.CPA.190 for commercial, HIM.PA.33 for health insurance marketplace, and CP.PMN.255 for Medicaid; 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: CP.CPA.190 for commercial, HIM.PA.103 for health insurance marketplace, and CP.PMN.16 for Medicaid; 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: CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid.

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 – CP.CPA.09 for commercial, HIM.PA.154 for health insurance marketplace, and CP.PMN.53 for Medicaid or evidence of coverage documents.

IV. Appendices/General Information

Appendix A: Abbreviation/Acronym Key
ACFLD: advanced cystic fibrosis lung disease
CF: cystic fibrosis
CFF: Cystic Fibrosis Foundation

CFTR: cystic fibrosis transmembrane conductance regulator FDA: Food and Drug Administration ppFEV1: percent predicted forced expiratory volume in 1 second

Appendix B: Therapeutic Alternatives Not applicable

Appendix C: Contraindications/Boxed Warnings None reported

Appendix D: General Information

- The Cystic Fibrosis Foundation (CFF) Mutation Analysis Program (MAP) available here: https://www.cff.org/medical-professionals/mutation-analysis-program. The MAP is a free and confidential genetic testing program for people with a strongly suspected or confirmed diagnosis of CF.
- Regarding the diagnostic criteria for CF:
 - The Cystic Fibrosis Foundation (CFF) guidelines state that CFTR dysfunction needs to be confirmed with an elevated sweat chloride $\geq 60 \text{ mmol/L}$.



- \circ "Genetic testing confirming the presence of two disease-causing mutations in CFTR gene" is used to ensure that whether heterozygous or homozygous, there are two disease-causing mutations in the CFTR gene, one from each parental allele. One of those two mutations must be an *F508del* mutation but does not necessarily require both.
- Most children can do spirometry by age 6, though some preschoolers are able to perform the test at a younger age. Some young children aren't able to take a deep enough breath and blow out hard and long enough for spirometry. Forced oscillometry is another way to test lung function in young children. This test measures how easily air flows in the lungs (resistance and compliance) with the use of a machine.
- The two most commonly reported parameters from multiple-breath washout (MBW) tests are the lung clearance index (LCI) and moment ratios (MRs). Measurements of LCI and MR are taken during the washout period. During the washout phase, subjects inhale gases that do not contain the test gas of interest. The principles of the washout are the same regardless of the test gas measured. The washout is stopped once the test gas reaches 1/40 of the initial gas concentration
- The LCI is feasible to perform and is a more sensitive outcome measure than ppFEV1.
- NHS Clinical Guidelines: Care of Children with Cystic Fibrosis: Normal ranges for LCI are device specific and still being established, but in general a value > 8.0 is above the normal range and > 10.0 is significantly abnormal.

List of CFTR Gene Mutations that are Responsive to Trikafta					
3141del9	E822K	G1069R	L967S	R117L	S912L
546insCTA	<i>F191V</i>	<i>G1244E</i>	L997F	R117P	S945L
A46D	F311del	G1249R	L1077P	R170H	S977F
A120T	F311L	G1349D	L1324P	R258G	S1159F
A234D	F508C	H139R	L1335P	<i>R334L</i>	S1159P
A349V	F508C;	H199Y	L1480P	R334Q	S1251N
	$S1251N^{\dagger}$			_	
A455E	F508del	H939R	M152V	R347H	S1255P
A554E	F575Y	H1054D	M265R	R347L	T338I
A1006E	F1016S	H1085P	M952I	R347P	T1036N
A1067T	F1052V	H1085R	M952T	R352Q	T1053I
D110E	F1074L	H1375P	M1101K	<i>R352W</i>	V201M
D110H	F1099L	I148T	P5L	R553Q	V232D
D192G	G27R	1175V	P67L	R668C	V456A
D443Y	G85E	I336K	P205S	R751L	V456F
D443Y;G576A;	G126D	I502T	P574H	R792G	V562I
$R668C^{\dagger}$					
D579G	G178E	<i>I601F</i>	Q98R	R933G	V754M
D614G	G178R	I618T	Q237E	R1066H	V1153E
D836Y	G194R	I807M	Q237H	R1070Q	V1240G
D924N	G194V	1980K	Q359R	R1070W	V1293G

Appendix E: CFTR Gene Mutations that are Responsive to Trikafta



List of CFTR Gene Mutations that are Responsive to Trikafta					
D979V	G314E	<i>I1027T</i>	<i>Q1291R</i>	R1162L	W361R
D1152H	G463V	<i>I1139V</i>	<i>R31L</i>	R1283M	W1098C
D1270N	G480C	<i>I1269N</i>	<i>R74Q</i>	R1283S	W1282R
E56K	G551D	11366N	<i>R74W</i>	S13F	Y109N
E60K	G551S	K1060T	$R74W;D1270N^{\dagger}$	S341P	Y161D
E92K	G576A	L15P	$R74W; V201M^{\dagger}$	S364P	Y161S
E116K	G576A;	L165S	<i>R74W;V201M;</i>	S492F	Y563N
	$R668C^{\dagger}$		$D1270N^{\dagger}$		
E193K	G622D	L206W	R75Q	S549N	<i>Y1014C</i>
E403D	G628R	L320V	<i>R117C</i>	S549R	Y1032C
E474K	G970D	L346P	<i>R117G</i>	S589N	
E588V	G1061R	L453S	R117H	S737F	

[†] Complex/compound mutations where a single allele of the CFTR gene has multiple mutations; these exist independent of the presence of mutations on the other allele.

V. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
CF	 Pediatric patients age 2 to less than 6 years weighing less than 14 kg: <u>Morning dose</u>: One packet (containing elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 60 mg oral granules) <u>Evening dose</u>: One packet (containing ivacaftor 59.5 mg oral granules) 	Age 2 to 6 years weighing less than 14 kg: elexacaftor 80 mg/tezacaftor 40 mg/ivacaftor 119.5 mg per day
	 Pediatric patients age 2 to less than 6 years weighing 14 kg or more: <u>Morning dose:</u> One packet (containing elexacaftor 100 mg/tezacaftor 50 mg/ ivacaftor 75 mg oral granules) <u>Evening dose:</u> One packet (containing ivacaftor 75 mg oral granules) Pediatric patients age 6 years to less than 12 years weighing less than 30 kg: <u>Morning dose</u>: 2 tablets (each containing elexacaftor 50 mg/tezacaftor 25 mg/ivacaftor 37.5 mg) <u>Evening dose</u>: 1 tablet of ivacaftor 75 mg 	Age 2 to 6 years weighing 14 kg or more and pediatric patients, or age 6 years to less than 12 years weighing less than 30 kg: elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 150 mg per day
		Adults, pediatric patients age 12 years and older, or



Indication	Dosing Regimen	Maximum Dose
	 Adults, pediatric patients age 12 years and older, or pediatric patients age 6 years to less than 12 years weighing 30 kg or more: <u>Morning dose</u>: 2 tablets (each containing elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) <u>Evening dose</u>: 1 tablet of ivacaftor 150 mg 	pediatric patients age 6 years to less than 12 years weighing 30 kg or more: elexacaftor 200 mg/ tezacaftor 100 mg/ ivacaftor 300 mg per day
	Morning and evening dose should be taken PO approximately 12 hours apart with fat- containing food	

VI. Product Availability

- Tablets: co-packaged fixed dose combination containing elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg and ivacaftor 150 mg; co-packaged fixed dose combination containing elexacaftor 50 mg/tezacaftor 25 mg/ivacaftor 37.5 mg and ivacaftor 75 mg
- Unit-dose packets containing oral granules: fixed dose combination containing elexacaftor 100 mg, tezacaftor 50 mg, and ivacaftor 75 mg co-packaged with ivacaftor 75 mg; fixed dose combination containing elexacaftor 80 mg, tezacaftor 40 mg, ivacaftor 60 mg co-packaged with ivacaftor 59.5 mg

VII. References

- 1. Trikafta Prescribing Information. Boston, MA: Vertex Pharmaceuticals, Inc.; April 2023. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/217660s000lbl.pdf. Accessed May 4, 2023.
- 2. Ren CL, Morgan RL, Oermann C, et al. Cystic Fibrosis Foundation pulmonary guidelines: Use of cystic fibrosis transmembrane conductance regulator modulator therapy in patients with cystic fibrosis. Ann Am Thorac Soc. 2018; 15(3): 271-280.
- 3. Farrell PM, White TB, Ren CL, et al. Diagnosis of cystic fibrosis: consensus guidelines from the Cystic Fibrosis Foundation. J Pediatr. 2017 Feb;181S:S4-S15.e1.
- 4. Goss CH, Burns JL. Exacerbations in cystic fibrosis. 1: Epidemiology and pathogenesis. Thorax. 2007;62(4):360–367.
- 5. Flume PA, Mogayzel PJ Jr, Robinson KA, et al. Clinical Practice Guidelines for Pulmonary Therapies Committee. Cystic fibrosis pulmonary guidelines: treatment of pulmonary exacerbations. Am J Respir Crit Care Med. 2009 Nov 1;180(9):802-8.
- 6. Kapnadak SG, Dimango E, Hadjiliadis D, et al. Cystic Fibrosis Foundation consensus guidelines for the care of individuals with advanced cystic fibrosis lung disease. J Cyst Fibros. 2020 May;19(3):344-354.
- 7. Mogayzel PJ Jr, Naureckas ET, Robinson KA, et al. Pulmonary Clinical Practice Guidelines Committee. Cystic fibrosis pulmonary guidelines. Chronic medications for maintenance of lung health. Am J Respir Crit Care Med. 2013 Apr 1;187(7):680-9.
- 8. Cystic Fibrosis Foundation: Clinical Care Guidelines. Available at: https://www.cff.org/medical-professionals/clinical-care-guidelines. Accessed May 4, 2023.



- 9. Davies J, Sheridan P, Lee P, et al. Effect of ivacaftor on lung function in subjects with CF who have the G551D-CFTR mutation and mild lung disease: a comparison of lung clearance index (LCI) vs. spirometry. Journal of Cystic Fibrosis. 2012;11(1):S15.
- 10. Alexander S, Alshafi K, Al-Yaghchi C, et al. Clinical Guidelines: Care of Children with Cystic Fibrosis. Royal Brompton and Harefield NHS. 2020;(8):22-23.

Reviews, Revisions, and Approvals	Date	P&T Approval Date
Policy created	10/2021	10/2021
4Q 2022 annual review. No changes made. References reviewed and updated.	10/2022	10/2022
Template changes applied to other diagnoses/indications and continued therapy section; revised criteria to include pediatric expansion and new granule formulation; updated Appendix D to include information on LCI; references reviewed and updated.	7/2023	7/2023
4Q 2023 annual review. No changes made.	10/2023	10/2023
Revised Appendix D to remove information on advanced Cystic Fibrosis disease.	4/2024	4/2024
4Q 2024 annual review: for continued therapy, clarified positive response as an "improvement" (e.g., decrease) of LCI and improvement of ppFEV1 as an "increase from baseline"; for Appendix D, updated LCI supplemental information; references reviewed and updated.	9/2024	9/2024

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.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.



This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

This clinical policy is the property of the Health Plan. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members and their representatives agree to be bound by such terms and conditions by providing services to members and/or submitting claims for payment for such services.

Note:

For Medicaid members, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

©2019 Centene Corporation. All rights reserved. All materials are exclusively owned by Centene Corporation and are protected by United States copyright law and international copyright law. No part of this publication may be reproduced, copied, modified, distributed, displayed, stored in a retrieval system, transmitted in any form or by any means, or otherwise published without the prior written permission of Centene Corporation. You may not alter or remove any trademark, copyright or other notice contained herein. Centene[®] and Centene Corporation.