

Clinical Policy: Vanzacaftor/Tezacaftor/Deutivacaftor (Alyftrek)

Reference Number: CP.PHAR.700

Effective Date: 12.20.24 Last Review Date: 05.25

Line of Business: Commercial, HIM, Medicaid Revision Log

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

Description

Vanzacaftor/tezacaftor/deutivacaftor (Alyftrek®) is a combination of deutivacaftor, a cystic fibrosis transmembrane conductance regulator (CFTR) potentiator, tezacaftor, and vanzacaftor.

- Vanzacaftor and tezacaftor bind to different sites on the CFTR protein and have an additive effect in facilitating the cellular process and trafficking of select mutant forms of CFTR (including F508del-CFTR) to increase the amount of CFTR protein delivered to the cell surface compared to either molecule alone.
- Deutivacaftor potentiates the channel open probability (or gating) of the CFTR protein at the cell surface.

FDA Approved Indication(s)

Alyftrek is indicated for the treatment of cystic fibrosis (CF) in patients aged 6 years and older who have at least one F508del mutation or another responsive mutation in the CFTR gene.

If the patient's genotype is unknown, an FDA-cleared CF mutation test should be used to confirm the presence of at least one indicated mutation.

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 Alyftrek 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 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;

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- ii. Member has at least one mutation in the CFTR gene that is responsive to Alyftrek (*see Appendix E*);
- 2. Prescribed by or in consultation with a pulmonologist;
- 3. Age \geq 6 years;
- 4. Documentation of member's baseline precent predicted forced expiratory volume in 1 second (ppFEV1), performed within the last 90 days;
- 5. Failure of Trikafta[®], unless member meets one of the following (a or b):
 - a. Presence of mutation in CFTR gene that is not responsive to Trikafta;
 - b. Contraindicated or clinically significant adverse effects are experienced; *Prior authorization may be required for Trikafta
- 6. Alyftrek is not prescribed concurrently with other CFTR modulators (e.g., Trikafta, Orkambi[®], Kalydeco[®], Symdeko[®]);
- 7. Dose does not exceed one of the following (a, b, or c):
 - a. Age 6 to < 12 years and weight < 40 kg (both i and ii):
 - i. Vanzacaftor 12 mg/tezacaftor 60 mg/deutivacaftor 150 mg per day;
 - ii. 3 tablets (vanzacaftor 4 mg/tezacaftor 20 mg/deutivacaftor 50 mg) per day;
 - b. Age 6 to < 12 years and weight ≥ 40 kg (both i and ii):
 - i. Vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg per day;
 - ii. 2 tablets (vanzacaftor 10 mg/tezacaftor 50 mg/deutivacaftor 125 mg) per day;
 - c. Age \geq 12 years (both i and ii):
 - i. Vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg per day;
 - ii. 2 tablets (vanzacaftor 10 mg/tezacaftor 50 mg/deutvacaftor 125 mg) per day.

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: 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):

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- 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 a stabilization or improvement (e.g., increase) in ppFEV1 from baseline;
- 3. Alyftrek is not prescribed concurrently with other CFTR modulators (e.g., Trikafta, Orkambi, Kalydeco, Symdeko);
- 4. If request is for a dose increase, new dose does not exceed one of the following (a, b, or c):
 - a. Age 6 to \leq 12 years and weight \leq 40 kg (both i and ii):
 - i. Vanzacaftor 12 mg/tezacaftor 60 mg/deutivacaftor 150 mg per day;
 - ii. 3 tablets (vanzacaftor 4 mg/tezacaftor 20 mg/deutivacaftor 50 mg) per day;
 - b. Age 6 to < 12 years and weight \ge 40 kg (both i and ii):
 - i. Vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg per day;
 - ii. 2 tablets (vanzacaftor 10 mg/tezacaftor 50 mg/deutivacaftor 125 mg) per day;
 - c. Age \geq 12 years (both i and ii):
 - i. Vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg per day;
 - ii. 2 tablets (vanzacaftor 10 mg/tezacaftor 50 mg/deutvacaftor 125 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

CF: cystic fibrosis

CFF: Cystic Fibrosis Foundation CFTR: cystic fibrosis transmembrane

conductance regulator

FDA: Food and Drug Administration ppFEV1: precent predicted forced expiratory volume in 1 second

Appendix B: Therapeutic Alternatives

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Drug Name	Dosing Regimen	Dose Limit/				
		Maximum Dose				
Trikafta (elexacaftor/ivacaftor/ tezacaftor)	 Pediatric patients age 6 years to less than 12 years weighing less than 30 kg: Morning dose: 2 tablets (each containing elexacaftor 50 mg/tezacaftor 25 mg/ivacaftor 37.5 mg) Evening dose: 1 tablet of ivacaftor 75 mg 	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 pediatric patients age 6 years to less than 12 years weighing 30 kg or more: • Morning dose: 2 tablets (each containing elexacaftor 100 mg/tezacaftor 50 mg/ivacaftor 75 mg) • Evening dose: 1 tablet of ivacaftor 150 mg	Adults, pediatric patients age 12 years and older, or 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					

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

Appendix C: Contraindications/Boxed Warnings

- Contraindication(s): none reported
- Boxed warning(s): drug-induced liver injury and liver failure

Appendix D: General Information

• The Cystic Fibrosis Foundation (CFF) Mutation Analysis Program (MAP) is a free and confidential genetic testing program for people with a strongly suspected or confirmed diagnosis of CF. It is available here: https://www.cff.org/medical-professionals/mutation-analysis-program.



- Diagnostic criteria for CF:
 - o The CFF guidelines state that CFTR dysfunction needs to be confirmed with an elevated sweat chloride ≥ 60 mmol/L.
 - "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.

Appendix E: CFTR Gene Mutations that are Responsive to Alyftrek

	List of CFTR Gene Mutations that are Responsive to Alyftrek						
Based on Clinical Data*							
A455E	G551D	$L1077P^{\dagger}$	R352Q	S549N	V754M		
D1152H	$G85E^{\dagger}$	L206W	R75Q	S549R	W1098C [†]		
F508del [†]	H1054D	$M1101K^{\dagger}$	S1159F	S945L	W1282R		
G1244E	1336K	R1066H	S1251N	V562I	<i>Y563N</i> [†]		
Based on in	Based on in vitro Data [‡]						
1507_1515 del9	E116Q	G424S	1556V	P140S	R334L	T1053I	
2183A→G	E193K	G463V	I601F	P205S	R334Q	T1086I	
3141del9	E292K	G480C	I618T	P499A	R347H	T1246I	
3195del6	E403D	G480S	I807M	P5L	R347L	T1299I	
3199del6	E474K	G551A	1980K	P574H	R347P	T338I	
546insCTA	E56K	G551S	K1060T	P67L	R352W	T351I	
A1006E	E588V	G576A	K162E	P750L	R516G	T604I	
A1067P	E60K	G576A;R6	K464E	P99L	R516S	V1153E	
		68C§					
A1067T	E822K	G622D	L1011S	Q1100P	R553Q	V1240G	
A107G	E92K	G628R	L102R	Q1291R	R555G	V1293G	
A120T	F1016S	G91R	L1065P	Q1313K	R560S	V201M	
A234D	F1052V	G970D	L1324P	Q237E	R560T	V232D	
A309D	F1074L	G970S	L1335P	Q237H	R668C	V392G	
A349V	F1099L	H1085P	L137P	Q359R	R709Q	V456A	
A46D	F1107L	H1085R	L1480P	<i>Q372H</i>	<i>R74Q</i>	V456F	
A554E	F191V	H1375P	L15P	Q452P	R74W	V520F	
A559T	F200I	H139R	L165S	Q493R	R74W;D1 270N [§]	V603F	
A559V	F311del	H199R	L320V	Q552P	R74W;V2	W361R	
A561E	F311L	H199Y	L333F	Q98R	01M§ R74W;V2 01M;D 1270N§	Y1014C	
A613T	F508C	H609R	L333H	R1048G	R75L	Y1032C	



List of CFT	R Gene Mut	ations that ar	e Responsiv	e to Alyftrel	k	
A62P	F508C;S1	H620P	L346P	R1066C	R751L	Y109N
	251N [§]					
A72D	F575Y	H620Q	L441P	R1066L	R792G	Y161D
C491R	F587I	H939R	L453S	R1066M	R933G	Y161S
D110E	G1047R	H939R;H9	L619S	R1070Q	S1045Y	Y301C
		49L				
D110H	G1061R	I1027T	L967S	R1070W	S108F	Y569C
D1270N	G1069R	I105N	L997F	R1162L	S1118F	<i>Y913C</i>
D1445N	G1123R	11139V	M1101R	R117C	S1159P	
D192G	G1247R	<i>I1234Vdel6</i>	M1137V	R117C;G	S1235R	
		aa		576A;R		
				668C		
D443Y	G1249R	I125T	M150K	R117G	S1255P	
D443Y;G5	G126D	11269N	M152V	R117H	S13F	
76A;R						
668C [§]						
D513G	G1349D	<i>I331N</i>	M265R	R117L	S341P	
D565G	G149R	11366N	M952I	R117P	S364P	
D579G	G178E	11398S	M952T	R1283M	S492F	
D614G	G178R	1148N	N1088D	R1283S	S549I	
D836Y	G194R	I148T	N1303I	R170H	S589N	
D924N	G194V	1175V	N1303K [‡]	R258G	S737F	
D979V	G27E	I502T	N186K	R297Q	S912L	
D993Y	G27R	I506L	N187K	R31C	S977F	
E116K	G314E	I506T	N418S	R31L	T1036N	
Based on Ex	Based on Extrapolation¶					
<i>1341G</i> → <i>A</i>	2789+2ins	3041-	3849+10k	3850-	5T;TG13	711+3A
	A	<i>15T</i> → <i>G</i>	$bC \rightarrow T$	<i>3T</i> → <i>G</i>		$\rightarrow G$
1898+3A	2789+5G	3272-	3849+4A	4005+2T	<i>621+3A</i> →	E831X
$\rightarrow G$	$\rightarrow A$	<i>26A</i> → <i>G</i>	$\rightarrow G$	$\rightarrow C$	G	
2752-	296+28A	<i>3600G</i> → <i>A</i>	3849+40A	5T;TG12		
26A→G	$\rightarrow G$		$\rightarrow G$			

^{*}Clinical data is obtained from Trials 1 and 2.

[†] This mutation is also predicted to be responsive by FRT assay with Alyftrek.

[‡]The *N1303k* mutation is predicted to be responsive only by HBE assay. All other mutations predicted to be responsive with in vitro data are supported by FRT assay.

[§]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.

[¶]Efficacy is extrapolated to certain non-canonical splice mutations because clinical trials in all mutations in this subgroup are infeasible and these mutations are not amenable to interrogation by FRT system.



V. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
CF	Pediatric patients age 6 to less than 12 years weighing less than 40 kg: 3 tablets of vanzacaftor 4 mg/tezacaftor 20 mg/deutivacaftor 50 mg PO QD Pediatric patients age 6 to less than 12 years weighing ≥ 40 kg: 2 tablets of vanzacaftor 10 mg/tezacaftor 50 mg/deutivacaftor 125 mg PO QD Adults and pediatric patients age ≥ 12 years: 2 tablets of vanzacaftor 10 mg/tezacaftor 50 mg/deutivacaftor 125 mg PO QD	Pediatric patients age 6 to less than 12 years weighing less than 40 kg: vanzacaftor 12 mg/tezacaftor 60 mg/deutivacaftor 150 mg/ day Pediatric patients age 6 to less than 12 years weighing ≥ 40 kg: vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg/day
		Adults and pediatric patients age > 12 years: vanzacaftor 20 mg/tezacaftor 100 mg/deutivacaftor 250 mg/day

VI. Product Availability

Tablets: fixed-dose combination containing vanzacaftor 4 mg (equivalent to 4.24 mg of vanzacaftor calcium dihydrate)/tezacaftor 20 mg/deutivacaftor 50 mg; fixed-dose combination containing vanzacaftor 10 mg (equivalent to 10.6 mg of vanzacaftor calcium dihyrdrate)/tezacaftor 50 mg/deutivacaftor 125 mg

VII. References

- 1. Alyftrek Prescriber Information. Boston MA: Vertex Pharmaceuticals, Inc.; December 2024. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/218730s000lbl.pdf. Accessed January 13, 2025.
- 2. ClinicalTrials.gov. A Phase 3 Study of VX-121 Combination therapy in participants with cystic fibrosis heterozygous for F508del and a minimal function mutation. Available at: https://clinicaltrials.gov/study/NCT05033080. Accessed January 14, 2025.
- 3. ClinicalTrials.gov. A study of VX-121 combination therapy in participants with cystic fibrosis who are homozygous for F508del, heterozygous for F508del and a gating or residual function mutation, or have at least 1 other triple combination responsive CFTR mutation and no F508del mutation. Available at: https://clinicaltrials.gov/study/NCT05076149. Accessed January 14, 2025.
- 4. ClinicalTrials.gov. Evaluation of VX-121/tezacaftor/deutivacaftor in cystic fibrosis participants 1 through 11 years of age. Available at: https://clinicaltrials.gov/study/NCT05422222. Accessed January 14, 2025.
- 5. 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.

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- 6. 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.
- 7. Goss CH, Burns JL. Exacerbations in cystic fibrosis. 1: Epidemiology and pathogenesis. Thorax. 2007;62(4):360–367.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. Cystic Fibrosis Foundation: Clinical Care Guidelines. Available at: https://www.cff.org/medical-professionals/clinical-care-guidelines. Accessed January 14, 2025.

Reviews, Revisions, and Approvals	Date	P&T Approval Date
Policy created pre-emptively	08.27.24	11.24
RT4: Drug is now FDA approved – criteria updated per FDA	01.13.25	05.25
labeling; added redirection to Trikafta unless there is presence of		
mutation in CFTR gene that is not responsive to Trikafta; added		
Appendix E with CFTR gene mutations that are responsive to		
Alyftrek.		

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.

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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.

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