



ADMINISTRATIVE POLICY STATEMENT

Michigan Marketplace

Policy Name & Number	Date Effective
Cystic Fibrosis Testing-MI MP-AD-1439	01/01/2025
Policy Type	
ADMINISTRATIVE	

Administrative Policy Statement prepared by CareSource and its affiliates are derived from literature based on and supported by clinical guidelines, nationally recognized utilization and technology assessment guidelines, other medical management industry standards, and published MCO clinical policy guidelines. Medically necessary services include, but are not limited to, those health care services or supplies that are proper and necessary for the diagnosis or treatment of disease, illness, or injury and without which the patient can be expected to suffer prolonged, increased or new morbidity, impairment of function, dysfunction of a body organ or part, or significant pain and discomfort. These services meet the standards of good medical practice in the local area, are the lowest cost alternative, and are not provided mainly for the convenience of the member or provider. Medically necessary services also include those services defined in any Evidence of Coverage documents, Medical Policy Statements, Provider Manuals, Member Handbooks, and/or other policies and procedures.

Administrative Policy Statements prepared by CareSource and its affiliates do not ensure an authorization or payment of services. Please refer to the plan contract (often referred to as the Evidence of Coverage) for the service(s) referenced in the Administrative Policy Statement. If there is a conflict between the Administrative Policy Statement and the plan contract (i.e., Evidence of Coverage), then the plan contract (i.e., Evidence of Coverage) will be the controlling document used to make the determination.

According to the rules of Mental Health Parity Addiction Equity Act (MHPAEA), coverage for the diagnosis and treatment of a behavioral health disorder will not be subject to any limitations that are less favorable than the limitations that apply to medical conditions as covered under this policy.

Table of Contents

A.	Subject	2
B.	Background	2
C.	Definitions.....	2
D.	Policy	3
E.	Conditions of Coverage	4
F.	Related Policies/Rules	4
G.	Review/Revision History	4
H.	References	4

A. Subject

Cystic Fibrosis Testing

B. Background

Cystic fibrosis (CF) is a recessive genetic disorder caused by pathogenic mutations of the cystic fibrosis transmembrane conductance regulator (CFTR) gene on the long arm of chromosome 7. When an individual inherits two abnormal CFTR genes, dysregulation of the epithelial lining fluid transport may result, affecting systemic mucus production. Diagnosis of CF is based upon the finding of genetic and/or functional abnormalities of the CFTR gene (CFTR variants) and is typically associated with progressive lung disease, pancreatic insufficiency, and elevated sweat chloride levels.

Many individuals with CF demonstrate mild or atypical symptoms and can present later in childhood or as adults, while others may test positive for CF, yet remain asymptomatic (CRMS). Untreated CF in some can lead to early mortality and infertility. This makes early CF diagnosis and identification of carriers of CF important for early intervention to mitigate disease progression as well as to allow for more informed health determinations. Advances in CF research has led to steadily evolving tests that can identify abnormal CFTR genes as well as tailored treatments to address the underlying mechanisms leading to disease.

More than 10 million Americans are carriers of a defective CFTR gene and show no symptoms of the disease. Others who do not fit CF diagnostic criteria still go on to develop disease associated with evidence of CFTR dysfunction limited to one organ (CFTR-related disorder). Carrier testing may provide an early indication as to whether a person might develop a CFTR-related disorder. Potential parents who test positive as carriers for CF will be able to make educated reproductive decisions, better prepare for birth, and investigate additional testing for CF-related health conditions. A negative screening result does not completely rule out the possibility that a person is a CF carrier. A negative screening test only rules out the specific CF variants that were part of the screen.

Diagnosis of CF is a multistage process. Individuals must have clinical symptoms consistent with CF in at least one organ system, have a positive newborn screen, or have a sibling with CF. In addition, there must be evidence of CFTR dysfunction via elevated sweat chloride, presence of two disease-causing CFTR mutations (one from each parent), or abnormal nasal potential difference (NPD). Newborn screening involves immunoreactive trypsinogen (IRT), sweat chloride testing, and genetic testing.

C. Definitions

- **American College of Medical Genetics and Genomics (ACMG)** – A nationally recognized interdisciplinary organization dedicated to the practice of medical genetics. The ACMG regularly posts technical recommendations for genetic diseases, including cystic fibrosis.

- **Autosomal Recessive** – A trait or disorder requiring a deleterious variant in both copies of the gene to express a phenotype.
- **Carrier** – An individual with a gene variant for a disease or disorder who can pass the variant on to offspring but does not have symptoms or features of the disorder.
- **Cystic Fibrosis Transmembrane Conductance Regulator (CFTR)** – Transmembrane protein that functions as a regulated anion channel to maintain a gradient necessary for normal cell function. Mutations that alter the function of the CFTR protein are associated with CF.
- **CFTR-Related Disorder** – A single pathogenic CFTR variant leading to the development of disease limited to one organ system in an individual who does not fit the CF diagnosis.
- **CFTR-Related Metabolic Syndrome (CRMS)** – Infants and children who are asymptomatic but have positive CF screening results. Found in 3-4% of infants with a positive newborn CF screen, CRMS is also known as CF screen positive, inconclusive diagnosis (CFSPID).
- **Immunoreactive Trypsinogen (IRT)** – A pancreatic enzyme precursor measured in newborns to screen for the presence of CF.

D. Policy

- I. Genetic testing for CF should only be performed once in a lifetime with member consent and the results documented in the member's health record. All genetic testing for CF should use currently recommended ACMG CFTR panels. Prior authorization is only required for CF genomic sequence analysis.
- II. Diagnostic testing is considered medically necessary when the member meets any of the following criteria:
 - A. clinical presentation of CF
 - B. infertility from oligospermia/azoospermia/congenital bilateral absence of vas deferens (CBAVD)
 - C. infant with meconium ileus or other symptoms indicative of CF but unable to produce adequate amounts of sweat for a sweat chloride test
 - D. infant with an elevated IRT value on newborn screening and a sweat chloride of at least 60 mmol/L or intermediate sweat chloride (between 30 mmol/L and 59 mmol/L)
- III. Carrier screening is indicated when the member meets any of the following criteria:
 - A. pregnant members or of reproductive age with intent and potential to procreate
 - B. partner tests positive while the member is pregnant or intending to become pregnant
 - C. a family history of cystic fibrosis
 - D. both parents are CF carriers
- IV. The following are not considered medically necessary and will not be covered:
 - A. repeat testing for the same CFTR panel

The ADMINISTRATIVE Policy Statement detailed above has received due consideration as defined in the ADMINISTRATIVE Policy Statement Policy and is approved.

- B. fetal testing
- C. gene sequencing of anything other than the CFTR gene

E. Conditions of Coverage

CareSource may request documentation for post-payment review of claims submitted for payment of CF testing. If documentation is not provided, CareSource may recoup previously paid claim(s).

F. Related Policies/Rules

Genetic Testing and Counseling

G. Review/Revision History

DATE		ACTION
Date Issued	07/17/2024	New policy. Approved at Committee.
Date Revised		
Date Effective	01/01/2025	
Date Archived		

H. References

1. Barben J, Castellani C, Munck A, et al. Updated guidance on the management of children with cystic fibrosis transmembrane conductance regulator-related metabolic syndrome/cystic fibrosis screen positive, inconclusive diagnosis (CRMS/CFSPID). *J Cyst Fibros.* 2021;20(5):810-819. doi:10.1016/j.jcf.2020.11.006
2. Barry PJ, Simmonds NJ. Diagnosing cystic fibrosis in adults. *Semin Respir Crit Care Med.* 2023;44(2):242-251. doi:10.1055/s-0042-1759881
3. Carrier. National Human Genome Research Institute. Updated May 30, 2024. Accessed June 3, 2024. www.genome.gov
4. Carrier testing for cystic fibrosis. Cystic Fibrosis Foundation. Accessed June 3, 2024. www.cff.org
5. Committee on Genetics: carrier screening for genetic conditions. American College of Obstetricians and Gynecologists. Reaffirmed 2023. Accessed June 3, 2024. www.acog.org
6. Cystic fibrosis – CFTR gene and mutation panel: A-0597. MCG Health. 28th ed. Updated March 14, 2024. Accessed June 3, 2024. www.careweb.careguidelines.com
7. Deignan JL, Astbury C, Cutting GR, et al. CFTR variant testing: a technical standard of the American College of Medical Genetics and Genomics (ACMG). *Genet Med.* 2020;22(8):1288-1295. doi:10.1038/s41436-020-0822-5
8. Deignan JL, Gregg AR, Grody WW, et al. Updated recommendations for CFTR carrier screening: a position statement of the American College of Medical Genetics and Genomics (ACMG). *Genet Med.* 2023;25(8):100867. doi:10.1016/j.gim.2023.100867
9. Gregg AR, Aarabi M, Klugman S, et al. Screening for autosomal recessive and X-linked conditions during pregnancy and preconception: a practice resource of the

The ADMINISTRATIVE Policy Statement detailed above has received due consideration as defined in the ADMINISTRATIVE Policy Statement Policy and is approved.

- American College of Medical Genetics and Genomics (ACMG). *Genet Med.* 2021;23(10):1793-1806. doi:10.1038/s41436-021-01203-z
10. Katkin JP. Cystic fibrosis: clinical manifestations and diagnosis. UpToDate. Updated March 7, 2023. Accessed June 3, 2024. www.uptodate.com
 11. Katkin JP. Cystic fibrosis: genetics and pathogenesis. UpToDate. Updated March 4, 2024. Accessed June 3, 2024. www.uptodate.com
 12. Langfelder-Schwind E, Karczeski B, Strecker MN, et al. Molecular testing for cystic fibrosis carrier status practice guidelines: recommendations of the National Society for Genetic Counselors. *J Genet Couns.* 2014;23(1):5-15. doi:10.1007/s10897-013-9636-9
 13. Marwaha S, Knowles JW, Ashley EA. A guide for the diagnosis of rare and undiagnosed disease: beyond the exome. *Genome Med.* 2022;14(1):23. doi:10.1186/s13073-022-01026-w
 14. Miller AC, Comellas AP, Hornick DB, et al. Cystic fibrosis carriers are at increased risk for a wide range of cystic fibrosis-related conditions. *Proc Natl Acad Sci U S A.* 2020;117(3):1621-1627. doi:10.1073/pnas.1914912117
 15. Polgreen PM, Comellas AP. Clinical phenotypes of cystic fibrosis carriers. *Annu Rev Med.* 2022;73:563-574. doi:10.1146/annurev-med-042120-020148
 16. Procedure Following Repeat Screening or Diagnostic Testing, OHIO ADMIN. CODE 3701-55-08 (2023).
 17. Russo ML. Cystic fibrosis: carrier screening. UpToDate. Updated March 15, 2024. Accessed June 3, 2024. www.uptodate.com
 18. Schmidt H, Sharma G. *Sweat Testing.* StatPearls Publishing; 2024. Accessed July 12, 2024. pubmed.ncbi.nlm.nih.gov
 19. Sharma N, Cutting GR. The genetics and genomics of cystic fibrosis. *J Cyst Fibros.* 2020;19(Suppl 1): S5-S9. doi:10.1016/j.jcf.2019.11.003
 20. Shteinberg M, Haq IJ, Polineni D, Davies JC. Cystic fibrosis. *Lancet.* 2021;397(10290):2195-2211. doi:10.1016/S0140-6736(20)32542-3