2.04.26	Fecal Analysis in the Diagnosis of Intestinal Dysbiosis		
Original Policy Date:	May 29, 2015	**Effective Date:**	February 1, 2024
Section:	2.0 Medicine	**Page:**	Page 1 of 13

Policy Statement

I. Fecal analysis of the following components is considered **investigational** as a diagnostic test for the evaluation of intestinal dysbiosis, irritable bowel syndrome, malabsorption, or small intestinal overgrowth of bacteria:
   A. Triglycerides
   B. Chymotrypsin
   C. Iso-butyrate, iso-valerate, and *n*-valerate
   D. Meat and vegetable fibers
   E. Long-chain fatty acids
   F. Cholesterol
   G. Total short-chain fatty acids
   H. Levels of Lactobacilli, bifidobacteria, and *Escherichiacoli* and other "potential pathogens," including *Aeromonas*, *Bacillus cereus*, *Campylobacter*, *Citrobacter*, *Klebsiella*, *Proteus*, *Pseudomonas*, *Salmonella*, *Shigella*, *Staphylococcus aureus*, and *Vibrio*
   I. Identification and quantitation of fecal yeast (including *Candida albicans*, *Candida tropicalis*, *Rhodotorula*, and *Geotrichum*)
   J. *N*-butyrate
   K. β-glucuronidase
   L. pH
   M. Short-chain fatty acid distribution (adequate amount and proportions of the different short-chain fatty acids reflect the basic status of intestinal metabolism)
   N. Fecal secretory immunoglobulin A

NOTE: Refer to Appendix A to see the policy statement changes (if any) from the previous version.

Policy Guidelines

Coding

The following CPT PLA code describes a qualitative test for Clostridium difficile toxin testing from a stool sample:

- **0107U**: Clostridium difficile toxin(s) antigen detection by immunoassay technique, stool, qualitative, multiple-step method

The following CPT code may be used for gastrointestinal (GI) pathogen panel:

- **0097U**: Gastrointestinal pathogen, multiplex reverse transcription and multiplex amplified probe technique, multiple types or subtypes, 22 targets (Campylobacter [C. jejuni/C. coli/C. upsaliensis], Clostridium difficile [C. difficile] toxin A/B, Plesiomonas shigelloides, Salmonella, Vibrio [V. parahaemolyticus/V. vulnificus/V. cholerae], including specific identification of Vibrio cholerae, Yersinia enterocolitica, Enteroaggregative Escherichia coli [EAEC], Enteropathogenic Escherichia coli [EPEC], Enterotoxigenic Escherichia coli [ETEC] lt/st, Shiga-like toxin-producing Escherichia coli [STEC] stx1/stx2 [including specific identification of the E. coli O157 serogroup within STEC], Shigella/Enteroinvasive Escherichia coli [EIEC], Cryptosporidium, Cyclospora cayetanensis, Entamoeba histolytica, Giardia lamblia [also known as G. intestinalis and G. duodenalis], adenovirus F 40/41, astrovirus, norovirus GI/GII, rotavirus A, sapovirus [Genogroups I, II, IV, and V])

The following CPT codes may be used to identify individual components of fecal analysis of intestinal dysbiosis:

- **82239**: Bile acids; total
- **82542**: Column chromatography, includes mass spectrometry, if performed (e.g., HPLC, LC, LC/MS, LC/MS-MS, GC, GC/MS-MS, GC/MS, HPLC/MS), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen (used to test for short-chain fatty acids)
- **82710**: Fat or lipids, feces; quantitative (used to test for fecal triglycerides)
- **82715**: Fat differential, feces, quantitative (used to test for fecal cholesterol)
- **82725**: Fatty acids, nonesterified (used to test for long-chain fatty acids)
- **83520**: Immunoassay for analyte other than infectious agent antibody or infectious agent antigen; quantitative, not otherwise specified (used for eosinophil protein X)
- **83630**: Lactoferrin, fecal; qualitative
- **83986**: pH; body fluid, not otherwise specified (used to measure fecal pH)
- **83993**: Calprotectin, fecal
- **84311**: Spectrophotometry, analyte, not elsewhere specified (used twice, once each to test for stool B-glucuronidase and chymotrypsin)
- **87102**: Culture, fungi (mold or yeast) isolation, with presumptive identification of isolates; other source (except blood) (used for fecal culture for fungi)
- **87328:** Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; cryptosporidium
- **87329**: Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; giardia
- **87336**: Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; Entamoeba histolytica dispar group
- **89160**: Meat fibers, feces

Fecal analysis may also include other standard components such as the following:
Stool culture

- **87045**: Culture, bacterial; stool, aerobic, with isolation and preliminary examination (e.g., KIA, LIA), Salmonella and Shigella species
- **87046**: Culture, bacterial; stool, aerobic, additional pathogens, isolation and presumptive identification of isolates, each plate
- **87075**: Culture, bacterial; any source, except blood, anaerobic with isolation and presumptive identification of isolates

Stool parasitology

- **87177**: Ova and parasites, direct smears, concentration and identification
- **87209**: Smear, primary source with interpretation; complex special stain (e.g., trichrome, iron hemotoxylin) for ova and parasites

Fecal occult blood (82271-82274)

- **82271**: Blood, occult, by peroxidase activity (e.g., guaiac), qualitative; other sources
- **82272**: Blood, occult, by peroxidase activity (e.g., guaiac), qualitative, feces, 1-3 simultaneous determinations, performed for other than colorectal neoplasm screening
- **82274**: Blood, occult, by fecal hemoglobin determination by immunoassay, qualitative, feces, 1-3 simultaneous determinations

Description

Intestinal dysbiosis may be defined as a state of disordered microbial ecology that is believed to cause disease. Laboratory analysis of fecal samples is proposed as a method of identifying individuals with intestinal dysbiosis and other gastrointestinal disorders.

Related Policies

- N/A

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Regulatory Status

Clinical laboratories may develop and validate tests in-house and market them as a laboratory service; laboratory-developed tests must meet the general regulatory standards of the Clinical Laboratory Improvement Amendments (CLIA). Laboratories that offer laboratory-developed tests must be licensed by the CLIA for high-complexity testing. To date, the U.S. Food and Drug Administration has chosen not to require any regulatory review of comprehensive testing for fecal dysbiosis.

Some U.S commercially available fecal dysbiosis tests are listed below in Table 2.

Table 2. Commercially Available Fecal Dysbiosis Tests by CLIA Certified Laboratories

Device	Manufacturer	Indications
GI Effects	Genova Diagnostics	Assessment of complete gut health, assessing the root cause of many GI complaints; includes the utilization of stool profiles

CLIA: Clinical Laboratory Improvement Amendments

Rationale

Background

Fecal Markers of Dysbiosis

Laboratory analysis of both stool and urine has been investigated as markers of dysbiosis. Commercial laboratories may offer testing for comprehensive panels or individual components of various aspects of digestion, absorption, microbiology, and metabolic markers. Representative components of fecal dysbiosis testing are summarized in Table 1.

Table 1. Components of the Fecal Dysbiosis Marker Analysis

Markers	Analytes
Digestion	• Triglycerides • Chymotrypsin • Iso-butyrate, iso-valerate, and *n*-valerate • Meat and vegetable fibers
Absorption	• Long-chain fatty acids • Cholesterol • Total fecal fat • Total short-chain fatty acids
Microbiology	• Levels of Lactobacilli, 4ifidobacterial, and *Escherichia coli* and other "potential pathogens," including *Aeromonas*, *Bacillus cereus*, *Campylobacter*, *Citrobacter*, *Klebsiella*, *Proteus*, *Pseudomonas*, *Salmonella*, *S higella*, *Staphylococcus aureus*, and *Vibrio* • Identification and quantitation of fecal yeast (including *Candida albicans, Candida tropicalis, Rhodotorula,* and *Geotrichum*) (optional viral and/or parasitology components)
Metabolic	• *N*-butyrate (considered key energy source for colonic epithelial cells) • β-glucuronidase • pH • Short-chain fatty acid distribution (adequate amount and proportions of the different short-chain fatty acids reflect the basic status of intestinal metabolism)
Immunology	• Fecal secretory immunoglobulin A (as a measure of luminal immunologic function) • Calprotectin[a]

Literature Review

Evidence reviews assess whether a medical test is clinically useful. A useful test provides information to make a clinical management decision that improves the net health outcome. That is, the balance of benefits and harms is better when the test is used to manage the condition than when another test or no test is used to manage the condition.

The first step in assessing a medical test is to formulate the clinical context and purpose of the test. The test must be technically reliable, clinically valid, and clinically useful for that purpose. Evidence reviews assess the evidence on whether a test is clinically valid and clinically useful. Technical reliability is outside the scope of these reviews, and credible information on technical reliability is available from other sources.

Promotion of greater diversity and inclusion in clinical research of historically marginalized groups (e.g., People of Color [African-American, Asian, Black, Latino and Native American]; LGBTQIA (Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual); Women; and People with Disabilities [Physical and Invisible]) allows policy populations to be more reflective of and findings more applicable to our diverse members. While we also strive to use inclusive language related to these groups in our policies, use of gender-specific nouns (e.g., women, men, sisters, etc.) will continue when reflective of language used in publications describing study populations.

Fecal Testing for Intestinal Dysbiosis

The gastrointestinal tract is colonized by a large number and a variety of microorganisms including bacteria, fungi, and archaea. The concept of intestinal dysbiosis rests on the assumption that abnormal patterns of intestinal flora, such as overgrowth of some commonly found microorganisms, have an impact on human health. Symptoms and conditions attributed to intestinal dysbiosis in addition to gastrointestinal disorders include chronic disorders (e.g., irritable bowel syndrome [IBS], inflammatory or autoimmune disorders, food allergy, atopic eczema, unexplained fatigue, arthritis,

ankylosing spondylitis), malnutrition, neuropsychiatric symptoms or neurodevelopmental conditions (e.g., autism), and breast and colon cancer.

The gastrointestinal tract symptoms attributed to intestinal dysbiosis (i.e., bloating, flatulence, diarrhea, constipation) overlap in part with either IBS or small intestinal bacterial overgrowth syndrome. The diagnosis of IBS is typically made clinically, based on a set of criteria referred to as the Rome criteria. The small intestine normally contains a limited number of bacteria, at least as compared with the large intestine. Small intestine bacterial overgrowth (SIBO) may occur due to altered motility (including blind loops), decreased acidity, exposure to antibiotics, or surgical resection of the small bowel. Symptoms include malabsorption, diarrhea, fatigue, and lethargy. The laboratory criterion standard for diagnosis consists of the culture of a jejunal fluid sample, but this requires invasive testing. Hydrogen breath tests, commonly used to evaluate lactose intolerance, have been adapted for use in diagnosing small intestinal bacterial overgrowth.

Clinical Context and Test Purpose

The purpose of fecal analysis in individuals who have various gastrointestinal conditions is to differentiate intestinal microflora and related immunologic markers that can be used to assist in the diagnosis of those conditions.

The following PICO was used to select literature to inform this review.

Populations

The relevant population of interest is individuals with gastrointestinal conditions such as suspected intestinal dysbiosis, IBS, malabsorption, or small intestinal bacterial overgrowth.

Interventions

The intervention of interest is the use of fecal dysbiosis testing. The rationale for intestinal dysbiosis testing is that alterations in intestinal flora (e.g., overgrowth of some commonly found microorganisms) and related immunologic responses have an impact on human health and disease. The further assumption is that therapeutic (antibiotics, prebiotic, probiotic, or fecal microbiota transplantation) or lifestyle management interventions can be made to address the alterations.

Comparators

The following practices are currently being used to manage various gastrointestinal conditions: laboratory tests, imaging, and endoscopy as indicated.

Outcomes

The general outcomes of interest are the correct diagnosis of gastrointestinal conditions potentially associated with alterations in intestinal microflora and initiation of appropriate treatment. These tests might be used during the evaluation and treatment of acute and chronic intestinal disorders. The duration of follow-up is condition-specific and is expected to be weeks to months later.

Study Selection Criteria

For the evaluation of clinical validity of fecal dysbiosis testing, methodologically credible studies were selected using the following principles:

- Reported on the accuracy of the marketed version of the technology (including any algorithms used to calculate scores)
- Included a suitable reference standard
- Patient/sample clinical characteristics were described
- Patient/sample selection criteria were described
- Included a validation cohort separate from the development cohort.

Clinically Valid
A test must detect the presence or absence of a condition, the risk of developing a condition in the future, or treatment response (beneficial or adverse).

Review of Evidence
Establishing that fecal analysis to identify intestinal dysbiosis is beneficial would involve evidence that fecal dysbiosis testing provides an incremental benefit to net health outcomes in patients with gastrointestinal tract symptoms as compared to current clinical pathways. No studies were identified that compared health outcomes in individuals managed with and without fecal analysis to identify intestinal dysbiosis. There were also no studies on the accuracy of fecal analysis versus another method for diagnosing IBS, SIBO, or other conditions. Additionally, no studies were identified establishing diagnostic criteria for intestinal dysbiosis as a disorder.

Retrospective Studies
Emmanuel et al (2016) retrospectively analyzed fecal biomarker results, dichotomized to normal or abnormal, from 3553 patients who underwent stool testing and met Rome III symptom criteria for IBS.[1,] Records were identified from samples sent to Genova Diagnostics from 2013 to 2014 for which patient questionnaires were completed (patient questionnaires are sent with every test kit; demographic surveys were completed for 7503 of 24258 of the fecal specimens obtained during the study period, and Rome III questionnaire results were completed for 5990 of those) and the case definition of IBS was based on patient reporting of symptoms on the Rome III questionnaire. The Genova Comprehensive Digestive Stool Analysis evaluates digestion/absorption markers, gut metabolic markers, and gut microbiology markers.[2,] Of the 3553 patient samples included, 13.6%, 27.5%, and 58.1%, respectively, reported having constipation-predominant IBS (IBS-C), diarrhea-predominant IBS (IBS-D), and mixed subtypes of IBS. Most patients (93.5%) had at least 1 abnormal result. There were differences by IBS subgroup, with IBS-D patients demonstrating higher rates of abnormal fecal calprotectin, eosinophil protein X, and bacterial potential pathogens (13.4%, 12.2%, and 75% of subjects, respectively) than IBS-C patients (7.1%, 4.4%, and 71.0%, respectively) and mixed subtypes of IBS patients (10.9%, p<.004 vs IBS-D; 8.0%, p<.003 vs IBS-D; 71.6%, p=.010 vs IBS-D).

A retrospective analysis of data from the Genova Diagnostics database for 2256 patients who underwent stool testing was published by Goepp et al (2014).[3,] Patients had symptoms suggestive of IBS (e.g., 48% had abdominal pain, 14% had diarrhea). Eighty-three percent of patients had at least 1 abnormal test result. The most common abnormal result, occurring in 73% of cases, was low growth in the beneficial bacteria *lactobacillus* and/or *bifidobacterium*. The next most common was testing positive for eosinophil protein X and fecal calprotectin, occurring in 14% and 12% of samples, respectively. A limitation of the study was that it did not include a confirmation of the diagnosis of IBS (i.e., using Rome criteria) and thus the accuracy of the Genova tests compared with clinical diagnosis could not be determined.

Nonrandomized Observational Studies
Studies using quantitative real-time polymerase chain reaction analysis have compared microbiota in patients who had known disease with healthy controls in an attempt to identify a microbiotic profile associated with a particular disease. None of these studies evaluated whether the fecal analysis in patients with IBS or other conditions led to improved health outcomes.

Jeffrey et al (2020) evaluated fecal samples of 80 patients with IBS and 65 healthy controls.[4,] *Ruminococcus gnavus* and *Lachnospiraceae* species were significantly elevated in patients with IBS, while *Barnesiellaintestinihominis* and *Coprococcus catus* amounts were found to be significantly lower. Additionally, in IBS patients, galactose degradation, sulfate reduction and assimilation, and cysteine biosynthesis were all reduced, indicating a decrease in sulfur metabolism compared to controls. No differences were noted in fecal microbiota across IBS subtypes. In patients screened for bile acid malabsorption (n=45), 40% tested positive to varying degrees. Only patients with positive screening results in the severe bile acid malabsorption (BAM) category showed

significant differences in their fecal microbiome compared to borderline, mild, and moderate cases. Elevated glycerophospholipids and oligopeptides were considered predictive for BAM.
Andoh et al (2012) reported on fecal microbiota profiles of 161 Japanese patients with Crohn disease (CD) and 121 healthy controls.[5,] Healthy individuals tended to have a different distribution of fecal microbiota than CD patients. For example, compared with controls, CD patients had significantly lower levels of *Faecalibacterium* and *Eubacterium* and significantly higher levels of *Streptococcus*.
Sobhani et al (2011) evaluated fecal microbiota samples taken before colonoscopy from 60 patients with colorectal cancer and 119 sex-matched healthy individuals in France.[6,] Total bacteria levels did not differ significantly between colorectal cancer and non-colorectal cancer groups. There were significant elevations of the *Bacteroides/Prevotella* group in the colorectal cancer population.
Joossens et al (2011) published a study comparing fecal microbiota in 68 patients with CD, 84 unaffected relatives, and 55 matched controls in Belgium.[7,] When samples from patients who had CD were compared with all unaffected controls, significant differences were found in the concentration of 5 bacterial species. Compared with controls, CD patients had lower levels of *Dialister invisus*, an uncharacterized species of *Clostridium* cluster XIVa, Faecalibacterium prausnitzii, and Bifidobacterium *adolescentis* as well as an increase in *Ruminococcus gnavus*.

Fecal markers in addition to microbiology profiles have evaluated whether the testing can distinguish between individuals with various gastrointestinal diseases. Langhorst et al (2008) in Germany evaluated 139 patients (54 with IBS, 43 CD, 42 ulcerative colitis) undergoing diagnostic ileocolonoscopy, who provided fecal samples.[8,] Samples were analyzed with enzyme-linked immunosorbent assay. Patients with IBS had significantly higher levels of lactoferrin, calprotectin, and polymorphonuclear-elastase than patients who had ulcerative colitis or CD (all p<.001). In the ulcerative colitis and CD groups, there were higher levels of all 3 markers in patients who had inflammation compared with those who did not.

Clinically Useful
A test is clinically useful if the use of the results informs management decisions that improve the net health outcome of care. The net health outcome can be improved if patients receive correct therapy, more effective therapy, or avoid unnecessary therapy or testing.

Direct Evidence
Direct evidence of clinical utility is provided by studies that have compared health outcomes for patients managed with and without the test. Because these are intervention studies, the preferred evidence would be from randomized controlled trials (RCTs).

No randomized or comparative intervention studies supporting the clinical utility of fecal testing were identified.

Chain of Evidence
Indirect evidence of clinical utility rests on clinical validity. It is not possible to construct a chain of evidence because there is insufficient evidence of clinical validity to draw conclusions on clinical utility.

Supplemental Information
The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the evidence review conclusions.

Practice Guidelines and Position Statements
Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strengths of evidence ratios, and include a description of management of conflict of interest.

American Gastroenterological Association

The American Gastroenterological Association (AGA) published clinical practice guidelines (2019) on laboratory evaluation of functional diarrhea and diarrhea-predominant irritable bowel syndrome (IBS) in adults.[9] Related to fecal analysis, the AGA suggests the use of fecal calprotectin or fecal lactoferrin to screen for IBS in individuals presenting with chronic diarrhea (conditional recommendation; low-quality evidence).

In 2020, the AGA published a clinical practice update on small intestinal bacterial overgrowth (SIBO).[10] On the topic of fecal analysis, the guideline states, "there is insufficient evidence to support the use of inflammatory markers, such as fecal calprotectin to detect SIBO." No other fecal markers are explicitly mentioned.

U.S. Preventive Services Task Force Recommendations

No U.S. Preventive Services Task Force (USPSTF) recommendations have been identified.

Medicare National Coverage

There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this review are listed in Table 2.

Table 3. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT02839317	Comparison of Fecal MicroBiota Between Patients With Early and Late Crohn's Disease and Relationship With Different Genetic and Serological Profiles	300	May 2024
NCT05619055	Intestinal Dysbacteriosis in the Pathogenesis of Necrotizing Enterocolitis	30	Mar 2025

NCT: National Clinical Trial Identifier

References

1. Emmanuel A, Landis D, Peucker M, et al. Faecal biomarker patterns in patients with symptoms of irritable bowel syndrome. Frontline Gastroenterol. Oct 2016; 7(4): 275-282. PMID 27761231
2. Genova Diagnostics. 2023; https://www.gdx.net/tests/prep/gi-stool-profiles. Accessed October 23, 2023.
3. Goepp J, Fowler E, McBride T, et al. Frequency of abnormal fecal biomarkers in irritable bowel syndrome. Glob Adv Health Med. May 2014; 3(3): 9-15. PMID 24891989
4. Jeffery IB, Das A, O'Herlihy E, et al. Differences in Fecal Microbiomes and Metabolomes of People With vs Without Irritable Bowel Syndrome and Bile Acid Malabsorption. Gastroenterology. Mar 2020; 158(4): 1016-1028.e8. PMID 31843589
5. Andoh A, Kuzuoka H, Tsujikawa T, et al. Multicenter analysis of fecal microbiota profiles in Japanese patients with Crohn's disease. J Gastroenterol. Dec 2012; 47(12): 1298-307. PMID 22576027
6. Sobhani I, Tap J, Roudot-Thoraval F, et al. Microbial dysbiosis in colorectal cancer (CRC) patients. PLoS One. Jan 27 2011; 6(1): e16393. PMID 21297998
7. Joossens M, Huys G, Cnockaert M, et al. Dysbiosis of the faecal microbiota in patients with Crohn's disease and their unaffected relatives. Gut. May 2011; 60(5): 631-7. PMID 21209126

8. Langhorst J, Elsenbruch S, Koelzer J, et al. Noninvasive markers in the assessment of intestinal inflammation in inflammatory bowel diseases: performance of fecal lactoferrin, calprotectin, and PMN-elastase, CRP, and clinical indices. Am J Gastroenterol. Jan 2008; 103(1): 162-9. PMID 17916108
9. Smalley W, Falck-Ytter C, Carrasco-Labra A, et al. AGA Clinical Practice Guidelines on the Laboratory Evaluation of Functional Diarrhea and Diarrhea-Predominant Irritable Bowel Syndrome in Adults (IBS-D). Gastroenterology. Sep 2019; 157(3): 851-854. PMID 31302098
10. Quigley EMM, Murray JA, Pimentel M. AGA Clinical Practice Update on Small Intestinal Bacterial Overgrowth: Expert Review. Gastroenterology. Oct 2020; 159(4): 1526-1532. PMID 32679220

Documentation for Clinical Review

- No records required

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy.

The following codes are included below for informational purposes. Inclusion or exclusion of a code(s) does not constitute or imply member coverage or provider reimbursement policy. Policy Statements are intended to provide member coverage information and may include the use of some codes for clarity. The Policy Guidelines section may also provide additional information for how to interpret the Policy Statements and to provide coding guidance in some cases.

Type	Code	Description
CPT®	0097U	Gastrointestinal pathogen, multiplex reverse transcription and multiplex amplified probe technique, multiple types or subtypes, 22 targets (Campylobacter [C. jejuni/C. coli/C. upsaliensis], Clostridium difficile [C. difficile] toxin A/B, Plesiomonas shigelloides, Salmonella, Vibrio [V. parahaemolyticus/V. vulnificus/V. cholerae], including specific identification of Vibrio cholerae, Yersinia enterocolitica, Enteroaggregative Escherichia coli [EAEC], Enteropathogenic Escherichia coli [EPEC], Enterotoxigenic Escherichia coli [ETEC] lt/st, Shiga-like toxin-producing Escherichia coli [STEC] stx1/stx2 [including specific identification of the E. coli O157 serogroup within STEC], Shigella/Enteroinvasive Escherichia coli [EIEC], Cryptosporidium, Cyclospora cayetanensis, Entamoeba histolytica, Giardia lamblia [also known as G. intestinalis and G. duodenalis], adenovirus F 40/41, astrovirus, norovirus GI/GII, rotavirus A, sapovirus [Genogroups I, II, IV, and V])
	0107U	Clostridium difficile toxin(s) antigen detection by immunoassay technique, stool, qualitative, multiple-step method
	82239	Bile acids; total
	82271	Blood, occult, by peroxidase activity (e.g., guaiac), qualitative; other sources
	82272	Blood, occult, by peroxidase activity (e.g., guaiac), qualitative, feces, 1-3 simultaneous determinations, performed for other than colorectal neoplasm screening

Type	Code	Description
	82274	Blood, occult, by fecal hemoglobin determination by immunoassay, qualitative, feces, 1-3 simultaneous determinations
	82542	Column chromatography, includes mass spectrometry, if performed (e.g., HPLC, LC, LC/MS, LC/MS-MS, GC, GC/MS-MS, GC/MS, HPLC/MS), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen
	82710	Fat or lipids, feces; quantitative
	82715	Fat differential, feces, quantitative
	82725	Fatty acids, nonesterified
	83520	Immunoassay for analyte other than infectious agent antibody or infectious agent antigen; quantitative, not otherwise specified
	83630	Lactoferrin, fecal; qualitative
	83986	pH; body fluid, not otherwise specified
	83993	Calprotectin, fecal
	84311	Spectrophotometry, analyte not elsewhere specified
	87045	Culture, bacterial; stool, aerobic, with isolation and preliminary examination (e.g., KIA, LIA), Salmonella and Shigella species
	87046	Culture, bacterial; stool, aerobic, additional pathogens, isolation and presumptive identification of isolates, each plate
	87075	Culture, bacterial; any source, except blood, anaerobic with isolation and presumptive identification of isolates
	87102	Culture, fungi (mold or yeast) isolation, with presumptive identification of isolates; other source (except blood)
	87177	Ova and parasites, direct smears, concentration and identification
	87209	Smear, primary source with interpretation; complex special stain (e.g., trichrome, iron hemotoxylin) for ova and parasites
	87328	Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; cryptosporidium
	87329	Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; giardia
	87336	Infectious agent antigen detection by immunoassay technique, (e.g., enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; Entamoeba histolytica dispar group
	89160	Meat fibers, feces
HCPCS	None	

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action
05/29/2015	BCBSA Medical Policy adoption
01/01/2016	Coding update

Effective Date	Action
03/01/2016	Policy Revision without position change
02/01/2017	Policy Revision without position change
02/01/2018	Policy revision without position change
03/01/2018	Policy clarification
02/01/2019	Policy revision without position change
07/01/2019	Coding update
11/01/2019	Coding update
03/01/2020	Annual review. No change to policy statement. Literature review updated.
02/01/2021	Annual review. No change to policy statement. Literature review updated.
07/01/2021	Coding Update
02/01/2022	Annual review. No change to policy statement. Literature review updated.
02/01/2023	Annual review. No change to policy statement. Literature review updated.
02/01/2024	Annual review. No change to policy statement. Literature review updated.

Definitions of Decision Determinations

Medically Necessary: Services that are Medically Necessary include only those which have been established as safe and effective, are furnished under generally accepted professional standards to treat illness, injury or medical condition, and which, as determined by Blue Shield, are: (a) consistent with Blue Shield medical policy; (b) consistent with the symptoms or diagnosis; (c) not furnished primarily for the convenience of the patient, the attending Physician or other provider; (d) furnished at the most appropriate level which can be provided safely and effectively to the patient; and (e) not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the Member's illness, injury, or disease.

Investigational/Experimental: A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements and Feedback (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department at (800) 541-6652, or the Transplant Case Management Department at (800) 637-2066 ext. 3507708 or visit the provider portal at www.blueshieldca.com/provider.

We are interested in receiving feedback relative to developing, adopting, and reviewing criteria for medical policy. Any licensed practitioner who is contracted with Blue Shield of California or Blue

Shield of California Promise Health Plan is welcome to provide comments, suggestions, or concerns. Our internal policy committees will receive and take your comments into consideration.

For utilization and medical policy feedback, please send comments to: MedPolicy@blueshieldca.com

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.

Appendix A

POLICY STATEMENT (No changes)	
BEFORE	**AFTER**
Fecal Analysis in the Diagnosis of Intestinal Dysbiosis 2.04.26 **Policy Statement:** I. Fecal analysis of the following components is considered **investigational** as a diagnostic test for the evaluation of intestinal dysbiosis, irritable bowel syndrome, malabsorption, or small intestinal overgrowth of bacteria: A. Triglycerides B. Chymotrypsin C. Iso-butyrate, iso-valerate, and *n*-valerate D. Meat and vegetable fibers E. Long-chain fatty acids F. Cholesterol G. Total short-chain fatty acids H. Levels of Lactobacilli, bifidobacteria, and *Escherichiacoli* and other "potential pathogens," including *Aeromonas*, *Bacillus cereus*, *Campylobacter*, *Citrobacter*, *Klebsiella*, *Proteus*, *Pseudomonas*, *Salmonella*, *Shigella*, *Staphylococcus aureus*, and *Vibrio* I. Identification and quantitation of fecal yeast (including *Candida albicans*, *Candida tropicalis*, *Rhodotorula*, and *Geotrichum*) J. *N*-butyrate K. β-glucuronidase L. pH M. Short-chain fatty acid distribution (adequate amount and proportions of the different short-chain fatty acids reflect the basic status of intestinal metabolism) N. Fecal secretory immunoglobulin A	**Fecal Analysis in the Diagnosis of Intestinal Dysbiosis 2.04.26** **Policy Statement:** I. Fecal analysis of the following components is considered **investigational** as a diagnostic test for the evaluation of intestinal dysbiosis, irritable bowel syndrome, malabsorption, or small intestinal overgrowth of bacteria: A. Triglycerides B. Chymotrypsin C. Iso-butyrate, iso-valerate, and *n*-valerate D. Meat and vegetable fibers E. Long-chain fatty acids F. Cholesterol G. Total short-chain fatty acids H. Levels of Lactobacilli, bifidobacteria, and *Escherichiacoli* and other "potential pathogens," including *Aeromonas*, *Bacillus cereus*, *Campylobacter*, *Citrobacter*, *Klebsiella*, *Proteus*, *Pseudomonas*, *Salmonella*, *Shigella*, *Staphylococcus aureus*, and *Vibrio* I. Identification and quantitation of fecal yeast (including *Candida albicans*, *Candida tropicalis*, *Rhodotorula*, and *Geotrichum*) J. *N*-butyrate K. β-glucuronidase L. pH M. Short-chain fatty acid distribution (adequate amount and proportions of the different short-chain fatty acids reflect the basic status of intestinal metabolism) N. Fecal secretory immunoglobulin A