GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

DESCRIPTION
Humans have 23 pairs of chromosomes. Aneuploidy is an abnormal number of chromosomes. Trisomy is a type of aneuploidy in which there are three copies of a chromosome instead of two.

Trisomy 21, also called Down syndrome, is a chromosomal condition that is associated with intellectual disability, a characteristic facial appearance and poor muscle tone in infancy. The degree of intellectual disability varies, but it is usually mild to moderate. Individuals with Down syndrome may be born with a variety of birth defects including heart defects and digestive abnormalities. The risk of having a child with trisomy 21 increases with a mother’s age. Down syndrome can also be caused by translocation, which occurs when a part of chromosome 21 breaks away and becomes attached to another chromosome. In a balanced translocation, pieces of chromosomes are rearranged but no genetic material is gained or lost in the cell. In these cases, the parent’s health is not affected.

Trisomy 18, also called Edwards syndrome, is a chromosomal condition associated with slow growth before birth and a low birth weight. Affected individuals may have heart defects and abnormalities of other organs that develop before birth. Other features of trisomy 18 include a small, abnormally shaped head; a small jaw and mouth; and clenched fists with overlapping fingers. The risk of having a child with trisomy 18 increases with a mother’s age.

Trisomy 13, also called Patau syndrome, is a chromosomal condition associated with severe intellectual disability and physical abnormalities in many parts of the body. Individuals with trisomy 13 often have heart defects, brain or spinal cord abnormalities, very small or poorly developed eyes, extra fingers and/or toes, a cleft palate and weak muscle tone. The risk of having a child with trisomy 13 increases with a mother’s age. Patau syndrome can also be caused by translocation.

Routine screening tests for trisomies 13, 18 and 21 include maternal serum screening and ultrasound evaluation in the first and second trimester. These tests may identify women with an increased risk of having a child with trisomy 13, 18 or 21, but they cannot diagnose, confirm or exclude the possibility of a chromosomal disorder. Conventional prenatal diagnosis (i.e., chorionic villus sampling (CVS) or amniocentesis) can definitively diagnose fetal trisomies, although these invasive procedures are associated with a risk of miscarriage.

Tests that detect fetal trisomies, without the need for CVS or amniocentesis, analyze cell-free DNA (cfDNA) fragments in maternal blood. During pregnancy, there are cfDNA fragments from both the mother and fetus in maternal circulation. The tests detect an increased amount of chromosomal material in maternal blood and can be offered as early as 10 weeks of pregnancy. Available tests use different methodologies and algorithms for data analysis. Depending on the test, the methodology may involve massively parallel sequencing (MPS), targeted sequencing of specific chromosomal segments or directed sequence analysis of single nucleotide polymorphisms.

Illumina Inc. offers the Verifi Prenatal Test. This assay uses MPS to analyze cfDNA present in maternal serum during pregnancy. In this test, a proprietary algorithm known as SAFeR is used to calculate a normalized chromosome value (NCV) for chromosomes 21, 18, and 13. Based on the NCVs obtained, the patient is provided with 1 of 3 results: aneuploidy detected, no aneuploidy detected, or aneuploidy suspected. If analysis of the sex chromosomes is requested, the possible results include XX (normal female), XY (normal male), 45,X (Turner syndrome), 47,XXX (triple X syndrome), 47,XXY (Klinefelter syndrome), or 47,XYY. Testing for trisomy 9, trisomy 16, and certain microdeletions may also be requested. Testing may be performed at or after 10 weeks gestation and requires at least 7 mL of blood collected using a proprietary kit obtained from the laboratory.

POLICY
Verifi Prenatal Test (81420) requires prior authorization for all product lines.

Codes 81507 and 0009M are non-covered for all product lines.
HMO, PPO, Individual Marketplace, Elite, Advantage

Paramount considers Verifi Prenatal Test (81420) medically necessary as screening tools for trisomy 13 (Patau syndrome), or trisomy 18 (Edwards syndrome), or trisomy 21 (Down syndrome) in pregnant women with single gestations who meet any of the following indications:

- Maternal age of 35 years or older at delivery
- Fetal ultrasound findings indicating an increased risk of aneuploidy
- History of a prior pregnancy with a trisomy
- Positive test results for aneuploidy, including first trimester, sequential, or integrate screen, or a quadruple screen
- Parental balanced Robertsonian translocation with an increased risk of fetal trisomy 13 or trisomy 21

In addition, the member must meet both of the following conditions for coverage of Verifi Prenatal Test:

1. Parents must have genetic counseling by a genetic counselor or a physician. Paramount will not reimburse genetic counseling (96040) when reported by a physician because this code is intended for use by non-physician health care professionals. Physicians who provide genetic counseling should report these services using evaluation and management codes. Additionally, physicians should develop protocols that standardize their practices of offering prenatal screening test for aneuploidy and carrier screening for genetic diseases.

2. Documentation should include all of the following components:
   - Interpretation of family and medical histories to assess the probability of disease occurrence or recurrence
   - Education about inheritance, genetic testing, disease management, prevention and resources
   - Counseling to promote informed choices and adaptation to the risk or presence of a genetic condition
   - Counseling for the psychological aspects of genetic testing

3. Second trimester ultrasound to evaluate for structural anomalies do NOT show anomalies such as increased nuchal translucency. (In patients in whom a structural fetal anomaly is identified, invasive diagnostic testing should be offered because a cell free DNA test can only detect trisomy 13, trisomy 18 and trisomy 21.)

Verifi Prenatal Test for any indication other than those listed above is non-covered, including, but not limited to, women at low risk for fetal aneuploidy and for women with a current multiple gestation pregnancy. This is considered experimental/investigational as it is not identified as widely used and generally accepted for any other proposed use as reported in published nationally recognized peer-reviewed medical literature.

Expanded testing of microdeletion/microduplication analysis and determining fetal sex using Verifi Prenatal Test is non-covered for any indication. This is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in published nationally recognized peer-reviewed medical literature.

NOTE: CPT code 88271 (Molecular cytogenetic testing, DNA probe, each) should not be billed for the Verifi Prenatal Test.

CODING/BILLING INFORMATION

The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>81420</td>
<td>Fetal chromosomal aneuploidy (eg, trisomy 21, monosomy X) genomic sequence analysis panel, circulating cell-free fetal DNA in maternal blood, must include analysis of chromosomes 13, 18, and 21</td>
</tr>
<tr>
<td>81507</td>
<td>Fetal aneuploidy (trisomy 21, 18, and 13) DNA sequence analysis of selected regions using maternal plasma, algorithm reported as a risk score for each trisomy</td>
</tr>
<tr>
<td>0009M</td>
<td>Fetal aneuploidy (trisomy 21, and 18) DNA sequence analysis of selected regions using maternal plasma, algorithm reported as a risk score for each trisomy</td>
</tr>
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</table>

TAWG REVIEW DATES: 08/26/2016, 12/15/2017, 01/25/2018

REVISION HISTORY EXPLANATION

08/26/16: Policy created to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
12/15/17: Clarified criteria to state that physicians may perform genetic counseling and should bill evaluation and management codes. Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
01/25/18: Added documentation requirements. Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).

REFERENCES/RESOURCES
Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services
Ohio Department of Medicaid http://jfs.ohio.gov/
American Medical Association, Current Procedural Terminology (CPT®) and associated publications and services
Industry Standard Review
Hayes, Inc.