Rapid Whole Genome Sequencing of Critically Ill Infants

The MCO shall cover rapid whole genome sequencing performed in the inpatient setting for infants with complex illnesses of unknown etiology. Rapid whole genome sequencing includes: individual sequencing; trio sequencing of the parents of the infant; and ultra-rapid sequencing.

Eligibility Criteria

Rapid whole genome sequencing is considered medically necessary for infants less than 12 months of age who are receiving inpatient hospital services in an intensive care or pediatric unit if they meet the following criteria:

- Are suspected of having a rare genetic condition that is not diagnosable by standard methods;
- Have symptoms that suggest a broad differential diagnosis that requires an evaluation by multiple genetic tests if advanced molecular techniques, including, but not limited to, traditional whole genome sequencing, rapid whole genome sequencing, and other genetic and genomic screening, are not performed;
- Timely identification of a molecular diagnosis is necessary to guide clinical decision making, and the advanced molecular techniques including, but not limited to, traditional whole genome sequencing, rapid whole genome sequencing, and other genetic and genomic screening results may guide the treatment or management of the infant's condition;
- Have an illness with at least one of the following features:
    - Multiple congenital anomalies;
    - Specific malformations highly suggestive of a genetic etiology;
    - Abnormal laboratory tests suggesting the presence of a genetic disease or complex metabolic phenotype like, but not limited to, an abnormal newborn screen, hyperammonemia, or lactic acidosis not due to poor perfusion;
    - Refractory or severe hypoglycemia;
    - Abnormal response to therapy related to an underlying medical condition affecting vital organs or bodily systems;
    - Severe hypotonia;
    - Refractory seizures;
    - A high-risk stratification on evaluation for a brief resolved unexplained event with any of the following:
        - A recurrent event without respiratory infection,
        - A recurrent witnessed seizure-like event, or
        - A recurrent cardiopulmonary resuscitation;
    - Abnormal chemistry levels including, but not limited to, electrolytes, bicarbonate, lactic acid, venous blood gas, and glucose suggestive of inborn error of metabolism;
    - Abnormal cardiac diagnostic testing results suggestive of possible channelopathies, arrhythmias, cardiomyopathies, myocarditis, or structural heart disease; or
    - Family genetic history related to the infant's condition.

Prior Authorization

Rapid whole genome sequencing requires prior authorization and must be ordered by the infant's treating physician. The ordering physician must be a medical geneticist or other physician sub-specialist including, but not limited to, a neonatologist or pediatric intensivist with expertise in the conditions and/or genetic disorder for which testing is being considered. Counseling is required before and after all genetic testing, and must be documented in the medical record, as per the *Genetic Counseling and Testing* section of this Manual.

Reimbursement

The MCO shall reimburse rapid whole genome testing separately from the hospital reimbursement for inpatient services. The minimum reimbursement for rapid whole genome sequencing (including reimbursement for individual sequencing, trio sequencing of the parents of the infant, and ultra-rapid sequencing) is equal to the fees on the Louisiana Medicaid Laboratory and Radiology (Non-Hospital) Fee Schedule in addition to the minimum per diem as published in the Louisiana Medicaid Inpatient Hospital Per Diem Fee Schedule.

Hospitals must bill the rapid whole genome sequencing claim using the appropriate CPT code on a CMS 1500 claim form. If the hospital bills electronically, the 837P must be used.