Genetic Testing

Genetic Testing for Breast and Ovarian Cancer

BRCA1 and BRCA2 are human genes that produce tumor suppressor proteins. Louisiana Medicaid considers genetic testing for BRCA1 and BRCA2 mutations in cancer-affected individuals and cancer-unaffected individuals to be medically necessary if the ~~recipient~~beneficiary meets the following published criteria. Prior authorization is required through the fiscal intermediary's Prior Authorization Unit (PAU).

Eligibility Criteria

Patients with Cancer Diagnosis

Genetic testing for BRCA1 and BRCA2 mutations in cancer-affected individuals may be medically necessary under any of the following circumstances:

- Individual from a family with a known BRCA1/BRCA2 mutation;
- Personal history of breast cancer and ≥1 of the following:
    - Diagnosed age ≤45 years;
    - Two primary breast cancers when the first breast cancer diagnosis occurred age ≤50 years;
    - Diagnosed age ≤50 years AND: ≥1 1st-, 2nd-, or 3rd-degree relative with breast cancer at any age;
    - Unknown or limited family history;
    - Diagnosed age ≤60 years with a triple negative (ER–, PR–, HER2–) breast cancer;
    - Diagnosed any age AND ≥1 1st-, 2nd-, or 3rd-degree relative with breast cancer diagnosed ≤ 50 years;

- Diagnosed any age AND ≥2 1st-, 2nd-, or 3rd-degree relatives with breast cancer at any age;
- Diagnosed any age AND ≥1 1st-, 2nd-, or 3rd-degree relative with epithelial ovarian/fallopian tube/primary peritoneal cancer;
- Diagnosed any age AND ≥2 1st-, 2nd-, or 3rd-degree relatives with pancreatic cancer or prostate cancer at any age;
- 1st-, 2nd-, or 3rd-degree male relative with breast cancer; or
- Ethnicity associated with deleterious founder mutations (e.g., Ashkenazi Jewish);

- Personal history of epithelial ovarian/fallopian tube/primary peritoneal cancer;
- Personal history of male breast cancer; or
- Personal history of pancreatic cancer or prostate cancer at any age AND ≥2 1st-, 2nd-, or 3rd-degree relatives with any of the following at any age. For pancreatic cancer, if Ashkenazi Jewish ancestry, only one additional affected relative is needed.
  - Breast cancer;
  - Ovarian/fallopian tube/primary peritoneal cancer; or
  - Pancreatic or prostate cancer.

Patients without cancer (Testing unaffected individuals)

Genetic testing for BRCA1 and BRCA2 mutations of cancer-unaffected individuals may be considered medically necessary under any of the following circumstances:

- Individual from a family with a known BRCA1/BRCA2 mutation;
- 1st- or 2nd-degree blood relative meeting any criterion listed above for patients with cancer; or

- 3rd-degree blood relative with breast cancer and/or ovarian/fallopian tube/primary peritoneal cancer AND ≥2 1st-, 2nd-, or 3rd-degree relatives with breast cancer.

For the purpose of familial assessment, 1st-, 2nd-, and 3rd-degree relatives are blood relatives on the same side of the family (maternal or paternal):

- 1st-degree relatives are parents, siblings, and children;
- 2nd-degree relatives are grandparents, aunts, uncles, nieces, nephews, grandchildren, and half siblings; or
- 3rd-degree relatives are great-grandparents, great-aunts, great-uncles, great grandchildren and first cousins.

For the purpose of familial assessment, prostate cancer is defined as Gleason score ≥7. Testing for Ashkenazi Jewish or other founder mutation(s) should be performed first (see guidelines: High risk ethic groups).

NOTE: Generally, genetic testing for a particular disease should be performed once per lifetime; however, there are rare instances in which testing may be performed more than once in a lifetime (e.g., previous testing methodology is inaccurate or a new discovery has added significant relevant mutations for a disease).

Investigational Genetic Testing ~~When Genetic Testing for Breast and Ovarian Cancer is not covered~~

Unless the above criteria is met, genetic testing either for those affected by breast, ovarian, fallopian tube, or primary peritoneal cancer or for unaffected individuals, including those with a family history of pancreatic cancer, is considered 'investigational'.

Genetic testing in minors for BRCA1 and BRCA2 mutations is considered investigational.

High-risk ethnic groups

Testing in eligible individuals who belong to ethnic populations in which there are well-characterized founder mutations should begin with tests specifically for these mutations. For example, founder mutations account for approximately three quarters of the BRCA mutations

found in Ashkenazi Jewish populations. When the testing for founder mutations is negative, comprehensive mutation analysis should then be performed.

Testing unaffected individuals

In unaffected family members of potential BRCA mutation families, most test results will be negative and uninformative. Therefore, it is strongly recommended that an affected family member be tested first whenever possible to adequately interpret the test. Should a BRCA mutation be found in an affected family member(s), DNA from the unaffected family member can be tested specifically for the same mutation of the affected family member without having to sequence the entire gene. Interpreting the test results for an unaffected family member without knowing the genetic status of the family may be possible in the case of a positive result for an established disease-associated mutation, but leads to difficulties in interpreting negative test results (uninformative negative) or mutations of uncertain significance because the possibility of a causative BRCA mutation is not ruled out.

Prostate cancer

~~Recipients~~Beneficiaries with BRCA mutations have an increased risk of prostate cancer, and patients with known BRCA mutations may therefore consider more aggressive screening approaches for prostate cancer. However, the presence of prostate cancer in an individual, or in a family, is not itself felt to be sufficient justification for BRCA testing.

Prior Authorization

BRAC1 and BRCA2 testing must be prior approved by the fiscal intermediary's PAU or the managed care organization (MCO). Prior authorization (PA) requests should include the following:

- PA request form;
- Documentation of medical necessity; and
- Other pertinent clinical information that may be requested.

Clinical information must be submitted by the provider involved in the ~~recipient~~beneficiary's care.

The documentation required for PA requests to the MCO shall be determined by the MCO. Managed care organizations will utilize the criteria they deem appropriate for BRCA1 and BRCA2

testing based upon the clinical information submitted by the provider involved in the recipientbeneficiary's care.

Reimbursement

BRAC1 and BRCA2 testing are reimbursed for *Current Procedural Terminology* (CPT) codes currently approved for cancer-affected individuals and cancer- unaffected individuals. Information regarding the fee Schedule to be used for BRCA1 and BRCA2 testing can be obtained on the Louisiana Medicaid website following the links under "Fee Schedule," "Professional Services Fee Schedule," "Laboratory and Radiology".

Genetic Testing for Familial Adenomatous Polyposis

Louisiana Medicaid considers genetic testing for adenomatous polyposis colic (APC) gene mutation to diagnose Familial Adenomatous Polyposis (FAP) medically necessary, once in a lifetime, if the beneficiary meets the following criteria.

FAP is caused by a hereditary genetic mutation in the APC tumor suppressor gene which leads to development of adenomatous colon polyps.

Eligibility Criteria

- Personal history of > 20 cumulative adenoma; or
- Known deleterious APC mutation in first-degree family member.
  NOTE: Testing in an unaffected first-degree family member will focus on the same mutation found in affected family member.

Prior Authorization

Genetic testing for FAP must be prior approved by the fiscal intermediary's Prior Authorization Unit (PAU). Prior authorization request must include the following:

- Completed PA request form;
- Documentation of medical necessity must include substantiation of meeting the eligibility criteria, to include the following:
  - Personal history of > 20 cumulative adenoma; or

- Known deleterious APC mutation in first-degree family member;
  NOTE: Testing in an unaffected first-degree family member will focus on the same mutation found in affected family member.

- Current Procedural Terminology (CPT) codes for requested test;

- The most recent medical evaluation, including a summary of the medical history and physical exam; and

- Any additional clinical information requested by the PAU.

Clinical information must be submitted by the beneficiary's treating physician.

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- Current Procedural Terminology (CPT) codes for requested test;

- The most recent medical evaluation, including a summary of the medical history and physical exam; and

- Any additional clinical information requested by the PAU.

Clinical information must be submitted by the beneficiary's treating physician.

Genetic Testing for Lynch Syndrome

Louisiana Medicaid considers genetic testing for Lynch Syndrome as a covered benefit, once in a lifetime, for recipients who meet the following criteria:

- Amsterdam II criteria; or

- Revised Bethesda Guidelines; or

- Estimated risk ≥ 5 percent based on predictive models (MMRpro, PREMM5, or MMRpredict).

Amsterdam II criteria

All of the following criteria must be met.

There must be at least three relatives with a Lynch Syndrome associated cancer (cancer of the colorectal, endometrium, small bowel, ureter or renal pelvis) and all of the following criteria should be present:

- One must be a first-degree relative to the other two;

- Two or more successive generations must be affected;

- One or more must be diagnosed before 50 years of age;
- Familial adenomatous polyposis should be excluded in the colorectal cancer; and
- Tumors must be verified by pathological examination.

Revised Bethesda Guidelines

One or more criterion must be met:

- Colorectal or uterine cancer diagnosed in a patient who is less than 50 years of age;
- Presence of synchronous (coexist at the same time), metachronous (previous or recurring) colorectal cancer, or other Lynch Syndrome associated tumors*;
- Colorectal cancer with the MSI-H ** histology *** diagnosed in a patient who is less than 60 years of age;
- Colorectal cancer diagnosed in one or more first-degree relatives with a Lynch syndrome related tumor, with one of the cancers being diagnosed under 50 years of age; and/or
- Colorectal cancer diagnosed in two or more first- or second-degree relatives with Lynch Syndrome related tumors, regardless of age.

*Hereditary nonpolyposis colorectal cancer (HNPCC)-related tumors include colorectal, endometrial, stomach, ovarian, pancreas, ureter and renal pelvis, biliary tract, and brain (usually glioblastoma as seen in Turcot syndrome) tumors, sebaceous gland adenomas and keratoacanthomas in Muir-Torre syndrome, and carcinoma of the small bowel.

**MSI-H - microsatellite instability–high in tumors refers to changes in two or more of the five National Cancer Institute-recommended panels of microsatellite markers

***Presence of tumor infiltrating lymphocytes, Crohn's-like lymphocytic reaction, mucinous/signet-ring differentiation, or medullary growth pattern.

Prior Authorization

Genetic testing for Lynch Syndrome/ HNPCC must be prior approved by the fiscal intermediary's Prior Authorization Unit (PAU). Prior authorization (PA) request must include the following:

- Completed PA request form; and
- Documentation of medical necessity must include substantiation of meeting the criteria, to include the following:
  - Recipient meets required criteria in the Amsterdam II or the Revised Bethesda Clinical Testing criteria for Lynch Syndrome or has an estimated risk of ≥ 5 percent based on predictive models (MMRpro, PREMM5, or MMRpredict) (to be specified);

  Documentation of formal pre-test counseling;

  - Current Procedural Terminology (CPT) codes for requested test;
  - The most recent medical evaluation, including a summary of the medical history and physical exam; and
  - Any additional clinical information requested by the PAU.

Clinical information must be submitted by the recipient's treating physician.