Molecular Genetic Testing: Services Reviewed by AIM®

REPLACES MEDICAL POLICIES:

2.04.07 Urinary Biomarkers for Cancer Screening, Diagnosis, and Surveillance
2.04.68 Laboratory and Genetic Testing for Use of 5-Fluorouracil in Patients with Cancer
4.01.21 Noninvasive Prenatal Screening for Fetal Aneuploidies and Microdeletions using Cell-Free Fetal DNA
12.04.13 Genetic Testing for Alzheimer Disease
12.04.28 Genetic Testing for Predisposition to Inherited Hypertrophic Cardiomyopathy
12.04.36 Assays of Genetic Expression in Tumor Tissue as a Technique to Determine Prognosis in Patients with Breast Cancer
12.04.43 Genetic Testing for Cardiac Ion Channelopathies
12.04.44 Genetic Testing for Familial Cutaneous Malignant Melanoma
12.04.48 Genotype-Guided Warfarin Dosing
12.04.51 Genetic Testing for Tamoxifen Treatment
12.04.52 Molecular Testing for the Management of Pancreatic Cysts, Barrett Esophagus, and Solid Pancreatobiliary Lesions
12.04.54 Gene Expression-Based Assays for Cancers of Unknown Primary
12.04.61 Multigene Expression Assay for Predicting Recurrence in Colon Cancer
12.04.63 Use of Common Genetic Variants (Single Nucleotide Variants) to Predict Risk of Non-familial Breast Cancer
12.04.72 Gene Expression Testing in the Evaluation of Patients with Stable Ischemic Heart Disease
12.04.74 DNA-Based Testing for Adolescent Idiopathic Scoliosis
12.04.75 Genetic Testing of CADASIL Syndrome
12.04.81 Genetic Testing for Rett Syndrome
12.04.86 Genetic Testing for Muscular Dystrophies
12.04.87 Genetic Testing for Hereditary Hearing Loss
12.04.88 Genetic Testing for PTEN Hamartoma Tumor Syndrome
12.04.89 Genetic Testing for the Diagnosis of Inherited Peripheral Neuropathies
12.04.91 General Approach to Genetic Testing
12.04.93 Genetic Cancer Susceptibility Panels Using Next-Generation Sequencing
12.04.97 Microarray-Based Gene Expression Profile Testing for Multiple Myeloma Risk Stratification
12.04.99 Genetic Testing for Hereditary Pancreatitis
12.04.102 Whole Exome and Whole Genome Sequencing for Diagnosis of Genetic Disorders
12.04.103 Genetic Testing for Macular Degeneration
12.04.108 Noninvasive Fetal RHD Genotyping Using Cell-Free Fetal DNA
12.04.111 Gene Expression Profiling and Protein Biomarkers for Prostate Cancer Management
Select a hyperlink below to be directed to that section.

ADMINISTRATIVE GUIDELINE | RELATED INFORMATION
RATIONALE | REFERENCES | HISTORY

∞ Clicking this icon returns you to the hyperlinks menu above.
Introduction

Effective January 4, 2019, AIM Specialty Health® conducts reviews for molecular genetic testing. Guidelines for genetic testing, including for pharmacogenomics, prenatal diagnosis, cardiac disease, cancer susceptibility, tumors and malignancies as well as single-gene genetic testing, and whole exome and whole genome sequencing will be used to conduct clinical reviews. The link to AIM’s Clinical Appropriateness Guidelines for Genetic Testing can be found below. To submit a request for services, providers will need to use the AIM Specialty Health provider portal, which is also provided below.

Administrative Guideline

<table>
<thead>
<tr>
<th>Service</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular genetic testing</td>
<td>AIM clinical appropriateness guidelines for genetic testing encompass:</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for hereditary cancer susceptibility</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for hereditary cardiac disease</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for multifactorial conditions</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for reproductive carrier screening and prenatal</td>
</tr>
<tr>
<td></td>
<td>diagnosis</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for single-gene conditions</td>
</tr>
<tr>
<td></td>
<td>• Genetic testing for thrombotic disorders</td>
</tr>
<tr>
<td></td>
<td>• Molecular testing of solid and hematologic tumors and malignancies</td>
</tr>
<tr>
<td></td>
<td>• Pharmacogenetic testing</td>
</tr>
<tr>
<td></td>
<td>• Whole exome and whole genome sequencing</td>
</tr>
</tbody>
</table>

Request a review AIMP | AIM Provider Portal login

Genetic counseling* Molecular genetic testing services reviewed by AIM® requires genetic counseling* for the tests described in the following AIM clinical appropriateness guidelines for genetic testing:
• Genetic testing for hereditary cardiac disease
• Genetic testing for hereditary cancer susceptibility
• Whole exome and genome sequencing
Pre-test genetic counseling is required as standard of care for individuals undergoing hereditary cancer, hereditary cardiac and whole exome sequencing (WES) genetic testing. Pre-test genetic counseling should be performed by a medical geneticist or genetic counselor and should include a formal informed consent process.

Pre-test genetic counseling provides individuals seeking genetic testing the opportunity to make informed decisions about their genetic testing and subsequent medical management options. Genetic counseling combines expertise in obtaining and interpreting family history information, the ability to identify the most beneficial individual in a family to initiate testing, identification of most appropriate testing options, and proficiency in genetic variant interpretation to maximize the genetic testing experience for patients and their healthcare providers. Patients who receive genetic counseling report increased knowledge, understanding, and satisfaction regarding their genetic testing experience. The genetic counseling informed consent process also educates and empowers patients to consider the psychological, financial, employment, disability, and insurance implications of genetic testing results.

The advent of multi-gene panels and genome-scale sequencing have increased the complexity of the genetic testing landscape. Misuse of genetic testing increases the risk for adverse events and patient harm including missed opportunities for diagnosis and disease prevention. Genetic information requires expert interpretation and ongoing re-evaluation to ensure the most accurate interpretation is used for informing medical management decision making. The multitude of genetic testing options as well as the complex information revealed by genetic testing can make choosing the most appropriate test and interpretation of results difficult for non-genetics healthcare providers. Involvement of a clinical genetics provider has been shown...
to ensure the correct test is ordered, limits result misinterpretation and allows patients to make informed, evidence-based medical decisions with their healthcare providers.\textsuperscript{13}

Genetic counseling not only improves patient outcomes but also reduces unnecessary healthcare spending. Pre-test genetic counseling has been shown to reduce inappropriate test ordering and prevent unnecessary medical procedures and interventions from inaccurate result interpretation.\textsuperscript{14} While genetic testing is now available to providers in almost all clinical specialties, correct use and interpretation is necessary to prevent adverse outcomes. While genetic counseling may benefit any patient considering or undergoing genetic testing, tests that offer predictive information or have a higher chance of identifying uncertain variants often carry stronger recommendations in the form of consensus guidelines and professional statements for genetic counseling by trained genetics professionals.

**Genetic Counseling for WES**

There is consensus that involvement of trained genetics professionals in consulting with patients is essential prior to and after ordering such tests and can identify the appropriate patients for large multi-gene panels or WES.\textsuperscript{15}

Obtaining informed consent and providing pre-test genetic counseling by a trained genetics professional is an essential component of WES. The American College of Medical Genetics (ACMG) published specific recommendations\textsuperscript{6}:

- Pre-test counseling should be done by a medical geneticist or an affiliated genetic counselor and should include a formal consent process.

- Prior to initiating whole genome sequencing (WGS)/WES, participants should be counseled regarding the expected outcomes of testing, the likelihood and type of incidental results that could be generated, and what results will or will not be disclosed.

- As part of the pre-test counseling, a clear distinction should be made between clinical and research-based testing. In many cases, findings will include variants of unknown significance that might be the subject for research; in such instances a protocol approved by an institutional review board must be in place and appropriate prior informed consent obtained from the participant.
Genetic Counseling for Hereditary Cardiac Conditions

Both the joint consortium of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society (AHA/ACC/HRS) as well as the ACMG have issued strong recommendations for genetic counseling for individuals undergoing evaluation for inherited cardiac disease.

In their Task Force publication from 2017\(^4\), the AHA/ACC/HRS provided this recommendation:

> The decision to proceed with genetic testing requires discussion regarding the clinical use of genetic information to be obtained for both the proband and family members, as well as consideration of the important psychological, financial, employment, disability, and life insurance implications of positive genotyping. Balancing privacy of health care information for the proband with the “right to know” for family members, and the ability to provide appropriate communication of information to all potentially affected family members can be challenging on many levels, including family dynamics, geographic proximity, and access to healthcare. For these reasons, genetic counseling generally occurs before proceeding with genetic testing, and, from a patient’s perspective, is optimally provided by genetic counselors, if available, in collaboration with physicians. A combined approach of genetic counseling with medical guidance may appropriately balance the decision as to whether genetic testing would be beneficial on an individual basis.

In the recent joint statement put forth by the ACMG and Heart Failure Society\(^{16}\), genetic counseling performed by a board-certified or board-eligible genetic specialist or specialized physician in the absence of a genetics professional is recommended as a key component of the evaluation of individuals with suspected familial cardiomyopathies with a level of evidence of A, their strongest recommendation. In addition, this recommendation includes a specific structure for genetic counseling that notes genetics professionals are specially trained to provide, including: review of medical records essential for phenotyping, obtaining a pedigree, patient and family education, evaluating genetic testing options, obtaining consent for genetic testing, facilitating family communication, and ordering and interpreting genetic test results while addressing psychosocial issues.

Genetic Counseling for Hereditary Cancer Conditions

Finally, the field of genetics that has included the broadest support for genetic counseling is hereditary cancer susceptibility. Many consensus organizations including the American Society of Clinical Oncology (ASCO)\(^{17}\), the National Comprehensive Cancer Network (NCCN)\(^{12}\), the
American College of Obstetricians and Gynecologists (ACOG)\textsuperscript{18} and the U.S. Preventive Services Task Force (USPSTF)\textsuperscript{19} recommend genetic counseling as an integral part of the evaluation of individuals at risk for hereditary cancer susceptibility syndromes. Additionally, the Affordable Care Act \textsuperscript{20} has established that counseling prior to mutation testing is an established essential health benefit appropriate for individuals with breast cancer.

Per the NCCN, cancer risk assessment and genetic counseling is highly recommended when genetic testing is offered (ie, pre-test counseling) and after results are disclosed (ie, post-test counseling), with assurance that the pre-test counseling includes collection of a comprehensive family history, evaluation of risk, full genetic differential review and education for the patient on the outcomes of testing, as well as full informed consent.

References


**History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/10/18</td>
<td>New Administrative Guideline, approved October 9, 2018.</td>
</tr>
</tbody>
</table>

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review
and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2019 Premera All Rights Reserved.

**Scope:** Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.
Discrimination is Against the Law

Premera Blue Cross complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Premera does not exclude people or treat them differently because of race, color, national origin, age, disability or sex.

Premera:
- Provides free aids and services to people with disabilities to communicate effectively with us, such as:
  - Qualified sign language interpreters
  - Written information in other formats (large print, audio, accessible electronic formats, other formats)
- Provides free language services to people whose primary language is not English, such as:
  - Qualified interpreters
  - Information written in other languages

If you need these services, contact the Civil Rights Coordinator.

If you believe that Premera has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, or sex, you can file a grievance with:
Civil Rights Coordinator - Complaints and Appeals
PO Box 91102, Seattle, WA 98111
Toll free 855-332-4535, Fax 425-918-5952, TTY 800-842-5357
Email AppealsDepartmentInquiries@Premera.com

You can file a grievance in person or by mail, fax, or email. If you need help filing a grievance, the Civil Rights Coordinator is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:
U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-5797 (TDD)
Complaint forms are available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:
Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:
U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-5797 (TDD)

Getting Help in Other Languages

This Notice has Important Information. This notice may have important information about your application or coverage through Premera Blue Cross. There may be key dates in this notice. You may need to take action by certain deadlines to keep your health coverage or help with costs. You have the right to get this information and help in your language at no cost.

Call 800-722-1471 (TTY: 800-842-5357).

Oromo (Cushite):

French (French):

Deutsche (German):

Ilokano (Ilocano):
Iloko (Ilocano):
Daytoy a Pakdaar kat naglaon iti Napateg nga Impormasion. Daytoy a pakdaar mabalin nga adda kat naglaon iti napateg nga impormasion maipanggep iti aplikasyon nga woffe coverage babaen iti Premera Blue Cross. Daytoy ket mabalin dagiti importante a pelta iti daytoy a pakdaar. Mabilalin nga adda rumbeng nga aramidenyo nga addang saktay dagiti partikular a naituding nga adda alawd tapno mapagtalaineyo ti coverage ti salun-atyo woffe tulong kadagit gastos. Adda karbenganyo a mangala iti daytoy nga impormasion ken tulong ti bukdoy a pagasaso nga awan ti bayadanyo. Tumawag ti numero nga 800-722-1471 (TTY: 800-842-5357).

Italiano (Italian):
Este aviso contiene información importante. Es posible que este aviso contenga información importante acerca de su solicitud o cobertura a través de Premera Blue Cross. Es posible que haya fechas claras en este aviso. Es posible que deba tomar alguna medida antes de determinadas fechas para mantener su cobertura médica y ayuda con los costos. Usted tiene derecho a recibir esta información y ayuda en su idioma sin costo alguno. Llame al 800-722-1471 (TTY: 800-842-5357).

Tagalog (Tagalog):
Ang Paunawa na ito ay naglalaman ng mahalagang impormasyon. Ang paunawa na ito ay maaring naglalaman ng mahalagang impormasyon tungkol sa iyong aplikasyon o pagsakop sa pamamanhig at ng Premera Blue Cross. Maaaring maagting ng mga paunawa na ito o tulong sa halaga ng mga impormasyon.

Thai (Thai):
ประกาศนี้มีข้อมูลสำคัญต่อคุณเกี่ยวกับการขอและการรับการช่วยเหลือของคุณผ่าน Premera Blue Cross และการมีสิทธิในการรับการช่วยเหลือตามประกาศนี้ คุณควรรู้ว่าข้อมูลสำคัญที่มีรายละเอียดและรายละเอียดที่เกี่ยวข้องในประกาศนี้ไม่ได้แก้ไขไว้ โปรดติดต่อ Premera Blue Cross (TTY: 800-842-5357) ถ้าคุณมีข้อสงสัย.

Russian (Russian):
Настоящее уведомление содержит важную информацию. Это уведомление может содержать важную информацию о вашем заявлении или страховом покрытии через Premera Blue Cross. В настоящем уведомлении могут быть указаны ключевые даты. Вам, возможно, потребуется принять меры к определенным предельным срокам для сохранения страхового покрытия или помощи с расходами. Вы имеете право на бесплатное получение этой информации и помощь на вашем языке. Звоните по телефону 800-722-1471 (TTY: 800-842-5357).

Romanian (Romanian):

Polskie (Polish):

Português (Portuguese):
Este aviso contém informações importantes. Este aviso poderá conter informações importantes a respeito de sua aplicação ou cobertura por meio do Premera Blue Cross. Poderão existir datas importantes neste aviso. Talvez seja necessário que você tome providências dentro de determinados prazos para manter sua cobertura de saúde ou ajuda de custos. Você tem o direito de obter esta informação e ajuda em seu idioma e sem custos. Ligue para 800-722-1471 (TTY: 800-842-5357).

 العربية (Arabic):
هذا الاستشعار يحتوي على معلومات مهمة. إذا كنت مهتمًا بطلبك أو معلوماتك، يرجى الاتصال بـ Premera Blue Cross على رقم 800-722-1471 (TTY: 800-842-5357) إذا كنت مهتمًا بطلبك أو معلوماتك.

日本語 (Japanese):
この通知には重要な情報が含まれています。この通知には、Premera Blue Crossの申請または補償範囲に関する重要な情報を含まれている場合があります。この通知に記載されている情報が重要な日をご確認ください。健康保険やクレジットカードを維持するには、特定の期限までに行動を取らなければなりません。ご希望の言語による情報とサポートが無料で提供されます。800-722-1471 (TTY: 800-842-5357)までお電話ください。

한국어 (Korean):
본 통지서에는 중요한 정보가 들어 있습니다. 즉 이 통지서는 귀하의 신청에 관하여 그리고 Premera Blue Cross를 통한 커버리지를 관련 정보를 포함하고 있을 수 있습니다. 귀하는 귀하의 건강 커버리지를 계속 유지하려고 하거나 필수 기간 이내에 일정한 마감일까지 조치를 취해야 할 필요가 있을 수 있습니다. 귀하신 이러한 정보와 도움을 귀하의 언어로 비용 부담없이 얻을 수 있는 권리가 있습니다. 800-722-1471 (TTY: 800-842-5357)로 전화하십시오.