Precision Medicine

Precision Medicine describes the delivery of the right treatment to the right person at the right time. It has the power to improve health outcomes by using technology and data to tailor health care to individual patients. There is still much to learn, but Precision Medicine is already transforming health care — and we’ve been at the forefront of this exciting approach for nearly two decades.
What is Precision Medicine?

Precision, or Personalized Medicine uses family history, environmental and lifestyle factors and genetic information to aid the screening, diagnosis and treatment of disease. While this approach has been around for a long time, recent rapid advances in genomics have accelerated the personalization of medicine, helping us anticipate disease and respond with targeted therapies.
Precision Medicine can help to prevent, diagnose and treat disease

**Prevention**

Precision Medicine helps to identify individuals at the highest risk for disease, allowing them to understand their increased risk and take steps to prevent disease.

For instance, a woman with a BRCA gene mutation can choose a preventive mastectomy before cancer has a chance to develop.

**Diagnosis**

Precision Medicine technologies can define disease at the individual patient level, while traditional approaches to diagnosis group diverse disease sub-types together.

For example, two people with the same cancer type can have different genetic markers that further refine their diagnoses and treatment options.

**Treatment**

Precision Medicine discoveries are leading to targeted therapies that can improve the safety and effectiveness of treatment.

For instance, genomic profiling of breast tumors can identify individuals likely to benefit from chemotherapy and those who are not likely to benefit.
Precision Medicine is advancing the future of health care
Genomics matters

There are many reasons people get sick — from the quality of their health care to causes related to the environment where they live. Behavioral patterns like diet or smoking also have a big impact. And genetic factors are important.

With Precision Medicine, we can better understand and address the genetic contribution to disease early on to better manage one’s health.

Causes of premature death

- **30% Genetic factors**
- **10% Clinical care**
- **40% Individual behavior**: stress management; diet and exercise; following care plan
- **20% Social and environmental factors**: home and family; mental wellness; economic stability

Genomic discoveries are happening at a fast pace

In the last five years, the number of medical conditions for which genes have been identified has increased from approximately 1,000 conditions to 10,000, while the number of genetic tests has increased to over 50,000.

An increase in knowledge and tests has created new opportunities for understanding a patient’s genetic make-up and predisposition to certain health conditions.

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The value of Precision Medicine technologies

Aetna is an industry leader in examining and providing access to high quality Precision Medicine technologies, promoting those that are most likely to improve health outcomes for members and increase the value of care.

Not all technologies on the market have demonstrated ability to improve health care outcomes.
FULL GENE SEQUENCING

BRCA1 and 2 testing for hereditary breast and ovarian cancer
Aetna’s Precision Medicine strategy

Data analytics
Continuously track Precision Medicine utilization and cost trends through an operational suite of data analytic tools to identify outliers for targeted management.

Clinical policy research & development
Aetna develops best-in-class clinical policies based on evidence in the published peer-reviewed literature.

Notification of research opportunities
Identification of members through medical claims to offer voluntary research opportunities that help advance the most effective and efficient use of proven technologies and services.

Utilization management
Apply precertiﬁcation and/or a robust set of claim payment edits to ensure that utilization adheres to clinical policy.

Care Considerations
Scanning multiple medical data sources to identify potential clinical risks and gaps in care and send alerts, called Care Considerations, to members and their health care providers to take evidence based actions to close the gaps in care.

Quality lab contracts
Deploy innovative contracting approaches to drive high-quality, cost-effective labs.

Genetic counseling support
Expanded access to genetic counseling experts is available to all members through Aetna’s telephonic genetic counseling vendors.
Aetna’s success is built on more than a decade of groundbreaking experience.

1998
Aetna developed the first comprehensive BRCA program for genetic testing for breast and ovarian cancers. This program earned the 2000 American Health Insurance Plans/Wyeth HERA Award.

2002
Aetna developed an online interactive genetic testing guide for members that won a 2003 World Wide Web Health Award from the Health Information Resource Center (HIRC).

Aetna was the first health plan to create and implement a genetic information privacy policy, becoming the model for other health plans.

Aetna pioneered a policy to cover genetic testing in non-Aetna members when the testing benefits a covered Aetna member.
Aetna adopted an employment genetic nondiscrimination policy — the first in the industry.

Aetna was the first health plan to develop genetic counseling services by phone.

Aetna joined the FDA’s Sentinel Initiative, which helps the agency proactively monitor the safety of medical products — including genetic tests.

The Aetna Foundation funded research collaborations with academic partners enabling Aetna members to voluntarily participate in research exploring the use of molecular genetic tests to guide breast cancer prediction, prevention and treatment. Other Aetna research is helping to inform how to optimize the quality of genetic breast cancer care for all women.
Aetna entered into a research and data-sharing collaboration with Harvard Medical School's Department of Biological Informatics. So far, the collaboration has produced more than 50 publications that have shaped national health care quality and policy.

The Aetna Foundation funded the American BRCA Outcomes and Utilization of Testing (ABOUT) study. The ABOUT study sought to identify the quality of BRCA services for inherited breast cancer risk assessment received by Aetna members.

The National Institutes of Health (NIH) provided funding for the five-year American BRCA Outcomes Among the Recently Diagnosed (ABOARD) study. The study followed 5,000 Aetna members from across the country who were newly diagnosed with breast cancer and underwent genetic testing to examine the influence genetic testing has on clinical treatment decisions among breast cancer patients and their doctors.
Labs must share genetic test result interpretations in ClinVar, a public database promoting transparency and quality of genetic testing.

Aetna became the first health plan to require a quality review of participating genetic testing labs. New rules were established that required labs to share genetic test result interpretations in ClinVar, a public database promoting transparency and quality of genetic testing.

Outcomes-based contracting for novel gene therapy-based treatments started.

Aetna’s continued leadership in health policy, coding policy and collaborative translational research is shaping the environment in which Precision Medicine is coming of age.
Most of medicine... has been done one size fits all. We all know it doesn’t always work... because we are not one-size-fits-all human beings. We all have different genetics and different environmental exposures. Ideally, you want medicine to adapt to that.

Francis Collins | DIRECTOR
National Institutes of Health
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