A Guide to *BRCA*
Testing for Health Plans
Data and insights on laboratory test
pricing, clinical utility, medical policy and
utilization management

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A GUIDE TO BRCA TESTING FOR HEALTH PLANS

It’s no secret that genetic laboratory testing is on the rise. New testing products are entering the market at a rate of 8-10 per day, and spend on genetic testing is growing at 25-35% per year. As a result, leading health plans are taking steps to more actively manage utilization and cost.

The bellwether of these trends was BRCA1/2 testing. Assays focused on BRCA1 and BRCA2 were among the first commercially available molecular laboratory tests, and today, they account for a large proportion of spend related to molecular diagnostics. As a result, BRCA1/2 testing has been the focus of new medical policy development, prior authorization programs, and other utilization management efforts by health plans.

Unfortunately, managing BRCA1/2 testing isn’t so simple. Several factors are increasing the difficulty, such as:

1. More Labs – More labs now offer BRCA1/2 testing, opening opportunities for price negotiation, yet adding complexity to the already difficult area of laboratory network contracting.
2. Broader Clinical Indications – The BRCA1/2 genes are now included on more than 200 panel tests for a wide variety of clinical uses, not always approved (or even mentioned) by payer medical policies.
3. Greater Spend – The billing codes for BRCA1/2 are appearing on more claims with more complex coding signatures (and potentially higher price tags).

As a result of these factors, many health plans are struggling with medical policy, lab contracting and payment integrity issues – and ultimately, costs – related to BRCA1/2 testing.

Drawing on a database of more than 65,000 genetic testing products and experience analyzing the genetic testing claims of more than 100 million members, Concert Genetics brings unique insight to this subject. This insight includes data on labs and tests entering the market in real time, utilization of tests, and pricing trends that can help health plans optimize their programs. This document leverages that knowledge to provide insight to health plans that want to better manage genetic testing – especially BRCA1/2 testing – within their member population.
A BRIEF HISTORY OF CLINICAL BRCA1/2 TESTING

Perhaps no single genetic test – nor other aspect of the personalized medicine revolution – has proliferated across the healthcare system and popular culture more than BRCA1/2 testing for inherited breast and ovarian cancer.

From a clinical standpoint, the utility of BRCA1/2 testing is among the most well-understood and well-validated. With 20 years of experience using this test in the clinical setting, a relatively clear understanding has emerged about who this test benefits and how it helps them. In fact, identifying women who have family members with breast, ovarian, tubal, or peritoneal cancer for the purposes of testing has even met the high bar of guidance from the U.S. Preventative Services Task Force.

From a payment perspective, many health plans began covering BRCA1/2 testing shortly after its emergence in commercial laboratory settings, and to this day it is covered (when appropriate) by the vast majority of plans.

From a cultural perspective, BRCA1/2 exploded onto the scene with the May 2013 announcement by actress Angelia Jolie that she voluntarily underwent a preventative double mastectomy after learning that she was a carrier of a BRCA1 mutation.

At that time, BRCA1/2 testing was offered exclusively by Myriad Genetics, which held patents on the two BRCA genes. This patent protection gave Myriad tremendous pricing power, which remained in place as clinical BRCA1/2 testing became more widely adopted (and the costs of this testing to both government and private payers rose significantly).

One month after Jolie’s announcement, in June 2013, the U.S. Supreme Court overturned Myriad’s patents on BRCA1/2 (ruling that DNA segments are naturally occurring), thus opening the market to new entrants.
In addition to popular press and the Supreme Court decision in 2013, Next Generation Sequencing (NGS) technologies were proliferating in clinical laboratories. These technologies are capable of sequencing far more bases of DNA at a significantly reduced cost.

As a result of this confluence of events, **more than 400 testing products** that include a *BRCA* gene are offered by 58 different U.S.-based, CLIA-certified laboratories. This expansion has created new options for patients, clinicians and health plans.

**THE MARKET FOR BRCA1/2 TESTING TODAY**

Since June 2013, the market for *BRCA1/2* testing has undergone a rapid transformation, one marked by growth in test availability, variety, and competition.

One predictable but important effect of the Supreme Court’s decision was that more labs began offering *BRCA1/2* testing.

This chart demonstrates that during the 33-month period ending September 2016 the total number of labs offering testing products with *BRCA1/2* together grew more than 5x, from only 7 labs to 38 total. Meanwhile, the number of labs offering *BRCA* testing in any form – single gene tests and/or multigene panels – more than doubled from 26 labs to 58 (not pictured in graph).

As expected, pricing patterns changed amidst this growing competition. During the same 33-month timeframe, the average public list price for *BRCA1/2* tests listed on laboratory websites decreased nearly 37%, from $1,875 to $1,168.

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Although this data cannot conclusively prove that competition caused price reductions, it is clear that purchasers of healthcare today have a wider variety of options, at different price points, than they did just a few years ago.

To put a fine point on this, current list prices for panels that contain BRCA1/2 range from $250 to $5,000, and variation in actual reimbursements is even greater.

However, the makeup of these testing products is also increasingly complex. More than 240 multigene panel-testing products currently include BRCA1 and/or BRCA2 along with at least one other gene. These products include 174 different gene combinations. The chart at right shows how the number and variety of these multigene panels has grown in recent years.

This variability adds complexity for payers who must assess clinical utility and establish payment policy. It also confounds clinicians seeking to order the best test for their patient.
MEDICAL POLICY AND CLINICAL UTILITY

In contrast to many other genetic tests on the market, the evidence of clinical utility for BRCA1/2 is clear. After 20 years of use, substantial knowledge has accumulated about the high risks for breast and ovarian cancer among BRCA1/2 carriers and the discriminant validity of the test to identify high-risk members within families. Further, among BRCA1/2 mutation carriers, risk-reducing surgery is associated with decreased incidence of cancer, morbidity and mortality.

This has led a number of major national organizations to draft guidelines around the use of BRCA1/2 testing. These guidelines are summarized below.

The U.S. Preventative Services Task Force (USPSTF) first issued recommendations regarding the use of BRCA1/2 testing in 2005 and updated these recommendations in 2013. USPSTF recommends that women with a family history of BRCA1/2 related cancers be screened with a family history tool aimed at identifying appropriate candidates for referral to genetic counseling and, when appropriate, testing for BRCA1/2 variants. The B-rating assigned to these recommendations is particularly powerful because the Affordable Care Act (ACA) requires health plans to cover services recommended by USPSTF with an A or B rating, and to do so without requiring cost-sharing by members.

The National Comprehensive Cancer Network updates guidelines much more frequently as new data emerges. The most recent guidelines were issued September 19, 2016. The NCCN guidelines are highly detailed and include criteria for risk assessment, management of BRCA1/2 carriers, clinical guidelines for Li-Fraumeni and Cowden Syndrome, and guidelines related to multigene panel testing. With regard to multigene testing, the guidelines defer to professional genetic expertise in making decisions about the use of these tests. With each update of the NCCN guidelines, and as evidence emerges for additional genes, the guidelines are trending towards inclusion of panel testing in their recommendations.

Following NCCN guidelines, virtually all health plans cover BRCA1/2 (two-gene) testing for high-risk patient populations. However, variations in coverage policy do come into play. For example:

- Coverage varies for testing in populations whose risk is unclear,
- Coverage varies for panel tests that assay additional genes beyond BRCA1/2, and
- Several plans have introduced a requirement that members undergo pre-test counseling with an independent board-certified genetic counselor before the plan will pay for a BRCA1/2 test.

On the last item, most plans that have instituted such a policy have also undertaken measures to help members connect with genetic counselors.
PAYMENTS, COSTS AND TRENDS

For many health plans, BRCA1/2 testing comprises a large portion of overall genetic testing spend. This makes sense given the long track record and strong evidence of clinical utility. However, continued high utilization of this testing doesn’t preclude savings opportunities.

As shown earlier, the number of labs offering BRCA1/2 testing increased 5x between January 2014 and September 2016, and during that timeframe, the average per-test list price dropped significantly. This trend suggests that health plans can benefit from savings derived from lower unit costs.

Claims data within the Medicare population support this. In 2013, CMS spent $47.5M on BRCA1/2 gene sequencing (including common deletion/duplication variants in BRCA1) as billed using CPT® 81211. In 2014, total spend on this same service was $33.3M – a nearly 30% decrease.

This reduction in spend is not explained by lower utilization, which remained level. Instead, the mechanism for savings was per-test cost. The average cost of the service decreased from $2,730 to $1,959 from 2013 to 2014.

The chart shown here compares total spend and volume during those two years, demonstrating the impact of the reduction in per-test cost.

Corroborating evidence that growing competition caused the reduction in price can be found in the number of laboratories seeking reimbursement from CMS for this service, which grew from 3 to 18 during this time.

In the years since 2014, new labs and testing products have continued to enter the market, so health plans should revisit their contracts with these labs regularly to explore more favorable pricing.
Future Test Utilization

Concert Genetics expects that clinical utilization of BRCA1/2 testing will increase in the coming years, at least modestly and perhaps significantly, and that health plans will need innovative strategies to deliver value to their members.

Costs for BRCA1/2 testing are declining as demonstrated earlier, which is lowering price-related barriers to access. At the same time, evidence of clinical utility is strengthening, in some cases effectively requiring plans to cover the testing. For example, health plans must pay for services recommended by the USPSTF (due to ACA requirements), which include BRCA1/2 testing for many women with increased risk for potentially harmful mutations.

Arguments for broad, population-based screening are also gaining momentum. In fact, for some populations, population-based testing is already predicted to be more cost-effective than family history-based pre-screening to identify candidates for testing. Should this practice take root, utilization will certainly increase.

Meanwhile, tactics to manage utilization are evolving, but face some constraints. For example, some health plans explicitly require evaluation by a genetics professional prior to test order. Although this will mitigate some unnecessary testing, the majority of patients who undergo counseling qualify for testing. Given broader market trends, this mechanism probably won’t diminish utilization below current levels – or at least not for long. Furthermore, traditional utilization management efforts such as prior authorization have faced operational limitations and have met with provider resistance.

On balance, utilization is more likely to grow than drop in the coming years, suggesting that negotiating with laboratories to arrive at fair prices may be a more achievable way to manage overall spend. Such negotiations will require health plans to weigh several factors beyond price, including test quality, as discussed in the next section.
ASSESSING TEST QUALITY

In a transparent market, high-quality tests performed for the best price will continue to gain market share. Defining quality, however, has been a challenge. As the market grows and changes, quality metrics change, making it even more challenging to assign value to a test. All of the tests described in the first section of this report are marketed by CLIA-certified labs that meet specific laboratory standards for performing tests on human samples. Among them, however, are different processes for ensuring full coverage of the gene, identifying deletions and duplications, confirming genetic variants, classifying variants’ pathogenicity and reporting findings to providers and patients. The degree to which these processes are made transparent to ordering providers varies.

Two significant and related policy initiatives are data sharing of gene variants and FDA regulation of laboratory developed tests.

DATABASES AND DATA SHARING

Despite BRCA1/2 tests having been performed for almost 20 years, laboratories still identify some percentage of genetic variants that are novel and must be classified as:

- “pathogenic,” or associated with an increased risk for cancer/additional cancers,
- “benign,” unassociated with changes in the ability of the BRCA proteins to function, or
- “uncertain,” if there is not enough data to determine whether that variant is associated with risk.

Currently, classifications also include “likely pathogenic” and “likely benign” classifications to account for variants for which there is evidence in favor of a pathogenic or benign classification, but that evidence is not conclusive.

Having access to a large database of previously tested samples, in conjunction with that individual’s clinical history, improves a lab’s ability to make variant calls. As such, Myriad has argued that their test bears an improved ability to correctly call variants, resulting in a reduced frequency of variants of uncertain significance. The economic value of that in terms of per-test price is unclear, and in a sense, only recently being evaluated by market forces. Many feel that by sharing variant data and the assigned classification with the community, laboratories open their interpretations up for community review, thereby increasing the overall quality of the interpretation. Some health plans are requiring, as a part of their network contracting, submission of variant data to public databases.

In July 2016, the FDA released a draft guidance outlining standards for genetic variant database quality. They propose that some databases could be recognized as an evidentiary standard to later support FDA review of the clinical validity of tests referencing these databases.

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FDA REGULATION

In December 2014, Myriad Genetics received FDA approval for the BRCA1/2 CDx test to serve as a companion diagnostic for Lynparza™ (olaparib) for patients with late-stage ovarian cancer. Currently, this is the only FDA-approved BRCA1/2 test, and the approval is for a very specific indication. All other BRCA1/2 tests are considered Laboratory Developed Tests (LDTs). To date, the FDA has exercised enforcement discretion over these tests, choosing not to regulate them.

In 2014, the FDA issued a draft guidance outlining a regulatory schema for LDTs, and many are watching to see if final guidance will be released. FDA regulation may set an additional quality standard by which tests can be assessed, but could also slow innovation and dissemination of new, and in some cases, better, technologies in the testing space.

As the market advances, it will be critical that stakeholders come together to reach a stronger consensus about what constitutes a quality test and how price and scalability can be balanced. Better systems to identify and track ordered tests, test outcomes and downstream impact will improve our ability to define test quality.
CONCLUSION

BRCA1/2 testing, either alone or as a part of a larger panel, is here to stay. The clinical evidence for these two genes is strong, patterns of utilization are well-worn, and both genes are appearing on more panel tests for an evolving set of clinical indications.

While plans continue to evolve their medical policies and prior authorization requirements (such as genetic counseling), utilization is likely to continue at or above the current pace for the foreseeable future. Plus, as long as the test is recommended by the U.S. Preventative Services Task Force, health plans will be required to pay for it – at least in circumstances deemed medically appropriate.

That said, the wave of competition and innovation that followed the 2013 Supreme Court decision has opened new options for health plans to manage costs while providing access to their members. Health plans can tap an increasingly competitive market to negotiate better rates from laboratories, reducing costs without reducing access.

Looking ahead, the challenges of managing BRCA1/2 testing reflect the broader genetic testing space. Traditional utilization management efforts will face inherent limitations. Until the market is transparent and efficient – that is, until test attributes, prices, clinical utility and quality data are easily comparable – effectively managing genetic testing will present challenges. As a result, health plans will be rewarded for evaluating and adopting innovative management strategies.
Final Note: If you would like to discuss how to best understand and manage the cost of genetic testing in your plan’s unique circumstances, visit us at www.concertgenetics.com/contact-us.

Works Cited


