

Empowering better care with precision medicine

2020 White Paper



New advances in precision medicine are rapidly altering the diagnostic and treatment landscape in oncology. Great strides have been made in developing innovative technologies that unlock the mysteries of patients' genomic and cellular profiles, enabling researchers to match a treatment for those patients with actionable mutations. The hope of precision medicine is that one day all patients can receive a treatment specifically tailored to their molecularly distinct disease. A robust personalized medicine approach identifies the best therapy, eliminates therapies likely to be less effective and can identify patients for clinical trials. All of this increases the chances for improved responses and survival.

Research is moving forward at a rapid pace, and today, there are new drugs that are very effective against breast, lung, melanoma, and other cancers that exhibit certain biomarkers. Unfortunately, these biomarkers are not always identified. Many oncologists struggle to overcome the numerous hurdles and complexities involved with the testing required to match a patient to a targeted treatment. But now, McKesson puts the power and promise of precision medicine within reach, enabling oncologists to efficiently utilize molecular testing to provide exciting new treatment options to more patients.



Simple truths about precision medicine

Precision medicine has progressed tremendously over the last decade due to next-generation sequencing (NGS), a new technique for higher throughput evaluation of genetic sequences. This advanced technology evaluates millions of DNA sequences simultaneously, versus the labor-intensive methods of the past where only a few DNA fragments were processed per chemical reaction.¹ This revolution in sequencing is already changing outcomes for many diseases, and bringing some important changes to the forefront of cancer care:

Molecular testing is no longer expensive

Broad molecular testing is no longer cost prohibitive. Molecular testing used to cost thousands of dollars per gene, but new technologies that run hundreds to thousands of genes at the same time, have brought down the cost of testing substantially. Expanded insurance coverage and financial assistance programs from commercial testing laboratories have put next-generation sequencing of tumor tissues within reach for most patients. If utilizing McKesson's biomarker guides, generally patients will not pay more than a few hundred dollars out of pocket, in addition to pathology charges, since McKesson requires approved molecular testing laboratories to offer strong financial assistance programs for patients. Furthermore, the evidence continues to grow showing benefit to targeted agents in cancer. The cost of ordering molecular testing is now minimal compared to the cost of therapy, so the expense is in the drugs, and yet it is important to get the right drug for the patient.

Having the full genetic profile of a patient's cancer enables immediate treatment when new therapies are discovered for their specific mutations

Although currently there are only a few dozen treatment options for all mutation-driven diseases combined, advancements are rapidly occurring. Even though having information on hundreds of a patient's genes may not be useful today, it may provide an avenue to promising new therapies tomorrow. Other reasons to test are to look for rare mutations that do have known targeted agents and also to look for mutations that could be hereditary.

Collecting comprehensive genetic data on patients drives clinical trials and development of new therapies

Comprehensive biomarker testing enables researchers to gain a better understanding of the molecular biology of tumors and identify mutation signatures, laying the critical groundwork necessary for clinical trials and drug development that advance cancer care.

“Targeted therapy is emerging as being superior to conventional chemotherapy if it is possible to identify the patients whose tumors have a target.”¹⁰

“Precision medicine is the standard of care now in multiple tumor types for specific patient populations. Our hope is that it will soon become standard of care for many more cancer types and improve outcomes for many more patients.”¹⁰



A wealth of benefits for patients and oncology practices

Better survival without increased costs

- A recent study of patients with recurrent or metastatic disease where front-line therapy failed reported a survival benefit for patients who received precision medicine–guided care versus standard care, particularly when driver mutations were identified and molecularly guided therapies were used. The improved progression-free survival was not associated with increased healthcare costs.²
- Another study determined precision oncology may improve overall survival for refractory cancer patients while lowering average per-week healthcare costs, resource utilization and end-of-life costs.³

The opportunity for treatments with a lower toxicity

- Patients with an actionable mutation may receive a therapy that does not have the unpleasant and sometimes harmful side effects often associated with traditional chemotherapy, providing a better quality of life during treatment.

NGS is more cost-effective and faster than single gene testing

- A study comparing NGS testing versus single gene testing in NSCLC patients found NGS testing resulted in substantial cost savings for both CMS and commercial payers as well as shorter turn-around time for results.⁴

Minimally invasive liquid biopsy can detect and monitor cancer mutations

- More patients with genetic mutations can be found when liquid biopsy is combined with tissue biopsy testing for biomarkers.⁵ As an alternative to re-biopsy for more tumor tissue,⁶ liquid biopsy has emerging clinical uses that benefit patients, such as early cancer detection and drug resistance monitoring.^{7,8}

Practices gain a competitive edge while providing better care

- Precision medicine can be a differentiating factor in the market, helping to position the practice as the leader in cutting-edge advanced care for the region. With skillful marketing, this strategy can drive referrals, not only within the local community, but also from adjacent areas as the practice becomes known for its expertise in precision medicine. Practices also benefit because physicians and staff are united in their strong desire to always provide patients the best opportunity for long-term survival with the highest quality of life. Precision medicine helps them achieve this goal.

Many patients will not have an actionable mutation that can be identified by biomarker testing, and for those patients, standard therapies are still very useful and effective. Researchers believe that in the future, biomarker testing will be critical for all patients in deciding which therapies may be most effective. This will reduce the chance of receiving an unsuccessful treatment.⁹



Pioneering precision medicine

McKesson is proud to be at the forefront of precision medicine for oncology. By playing a prominent role in this new approach to cancer treatment and prevention, we're leading the way by connecting bold new initiatives and innovative decision support tools and resources with a community of world-renowned researchers who bring cutting-edge therapies to patients through clinical trials in local communities.

McKesson's longstanding relationships with pharmaceutical companies enable it to leverage data that identifies genetic aberrations from large scale biomarker testing, driving clinical trials that test novel or repurposed agents. To date, McKesson's research group, US Oncology Research, has contributed to 90 FDA-approved cancer therapies, approximately one-third of all FDA-approved oncology treatments. The company is also advancing precision medicine by collaborating with The US Oncology Network, its powerful network of 1,400 affiliated physicians, to make precision medicine a standard of care for all patients with advanced cancers.





Simplifying the complicated

McKesson is committed to developing user-friendly decision support tools that enable physicians to quickly and efficiently order biomarker tests and access results — all at the point of care. Our innovative technology solutions put the necessary up-to-date information at the physician's fingertips, simplifying the order and result processes to empower better care:

Biomarker order guides

Comprehensive biomarker order guides are embedded in McKesson's industry-leading iKnowMedSM Generation 2 electronic health record and are also available online for all McKesson customers. This critical decision support tool takes the guesswork out of this complex process by identifying which tests should be ordered for a specific disease, as well as presenting possible treatment options. Physicians are faced with determining which genes and tests are appropriate, causing many to rely on past experience, which is difficult as information constantly changes. The biomarker order guides are meticulously updated every month or whenever actionable information on new genes and drug discoveries becomes available.

Vetted biomarker testing labs

A comprehensive list of vetted labs is embedded in the biomarker ordering guides, eliminating the need for physicians to find their own reliable testing source. All labs on the list are evaluated by McKesson's biomarker committee, physicians who examine each lab to determine their sustainability, quality and breadth of testing, and financial assistance programs. This ensures trustworthy results from high-quality labs and saves physicians valuable time.

Auto-population capabilities

The addition of interactive auto-population capabilities is the newest enhancement to McKesson's biomarker order guides in iKnowMed Generation 2. Once the appropriate test is chosen, the correct lab vendor order forms are automatically populated with the patient's information, saving physicians and staff from manually entering information. IT connections to specific vendor labs are currently being built to directly feed test results back to iKnowMed Generation 2, making the discrete data and results report readily available, identifiable and searchable.

The Molecular Tumor Board pilot initiative

The pilot project for a Molecular Tumor Board is McKesson's newest educational opportunity to help physicians and staff stay current on changes in molecular oncology. Interpretation of test results is often difficult due to a lack of standards in this fast-changing field. The Molecular Tumor Board optimizes the care team's ability to use tumor biomarker information and germline genetic test results to treat patients and their families. Molecular experts are brought in to discuss specific mutations and how testing can drive optimal treatments and preventative strategies. The Molecular Tumor Board is one of many resources that McKesson is developing to facilitate ongoing learning in molecular oncology.





Getting started with precision medicine: Advice from the experts

“Ordering the mutations early on will equip you with information for shared decision making regarding optimal choice of treatments for your patients. There are multiple vendors offering NGS. Based on the cancer type and mutations you are interested in, it helps to understand the tissue requirements and turnaround time with different providers. Please ensure these tests don’t add to your patient’s financial burden. Develop a process such as a molecular tumor board to interpret these results and refer to clinical trials where appropriate.”

Rajini Katipamula-Malisetti, MD, Minnesota Oncology

“First concentrate on building relationships with the multidisciplinary care team. This facilitates collaboration to ensure enough tissue is collected during the diagnostic biopsy for biomarker testing in the future. Then seek out educational opportunities focusing on molecular oncology. Become familiar with the language of molecular biology, and identify resources and colleagues who can assist you in this fast changing field.”

Jen Buhay, PhD, MB (ASCP) CM, Precision Medicine Clinical Program Manager and Clinical Molecular Geneticist, McKesson

“Order testing for those appropriate patients and make sure you have resources for accurate interpretation of results and possible referral to clinical trials.”

**Alex Spira, MD, PhD, FACP,
Virginia Cancer Specialists**

Put the power and promise of precision medicine at your fingertips.

Contact McKesson today at biomarker@mckesson.com.

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