Realizing the Potential of Precision Medicine

Collaborate across the MDT to address health inequity in biomarker testing and precision medicine.

Reading time: **18 min**

Jump to: Transforming Care Removing Barriers Enhance Your Approach Considerations for Your Practice Helpful Resources

Precision Medicine is Changing the Way Cancer is Diagnosed and Treated[1-3]

Precision Medicine is advancing cancer diagnostics and optimizing treatment through a tailored approach to each patient's genetic and molecular cancer profile.[1–3]

In a study of more than 9,000 tumors from 33 cancer types,

57%

harbored potentially actionable oncogenic driver events.[4]

Since actionable biomarkers have been discovered in many common tumors, biomarker testing is vital for early cancer detection and determining eligibility for targeted treatment.[1]

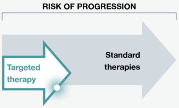
What the Guidelines Say

American Society of Clinical Oncology (ASCO), College of American Pathologists (CAP), and NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) all recommend the use of tumor biomarker testing to establish eligibility for targeted treatment and clinical trials.[5–12]

ASCO, American Society of Clinical Oncology; CAP, College of American Pathologists; NCCN, National Comprehensive Cancer Network.

Targeted therapies are improving outcomes across cancer types[13–18]

Meta-analyses and retrospective studies discovered improved response rates, progression-free and overall survival for patients treated with precision therapies than those who are not.[13–18]



Targeted therapy contributed to

53%

less risk of progression vs. standard therapy[17,a]

[a]After adjusting for other factors in a pan-tumor study of actionable mutations.[17]

Cancer targeted therapies have notably improved outcomes. Equitable access to and use of biomarker testing is crucial to ensure that patients don't miss out on the potential benefits of precision medicine and targeted therapies.[17]

Removing Barriers so More Patients Can Benefit From Precision Medicine

Social determinants of health may impact access to biomarker testing and leave the promise of precision medicine unrealized for many.[19–21]

Despite a history of targeted treatment availability in non-small cell lung cancer (NSCLC),[19]

64%

of over 500,000 people with NSCLC in the US did not receive a personalized treatment.[19]

While biomarker testing was not completed for patients (%) with[22]:

Metastatic HER2-positive breast cancer

39%

Advanced ovarian cancer

15%

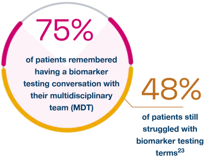
Metastatic prostate cancer

40%

With biomarker testing informing targeted treatment, this example highlights the need for optimized testing protocols and reporting to minimize disparities in cancer treatment.[19]

HER2, human epidermal growth factor 2; NSCLC, non-small cell lung cancer.

MDTs Can Boost Patient Health Literacy for Improved Understanding of Biomarker Testing



75%

of patients remembered having a biomarker testing conversation with their multidisciplinary team (MDT)

48%

of patients still struggled with biomarker testing terms[23]

By putting communication strategies and formal support systems in place, and improving shared decision-making on treatment options, MDTs can help reduce disparities in cancer-related outcomes while helping patients and caregivers better understand the concept and implications of biomarker testing.[23]

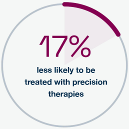
Disparities in oncology trials limit precision medicine access, affecting specific subgroups more[20,21]

Limited knowledge of underlying cancer biology in racial and ethnic minority groups highlights the urgent need for MDTs to advocate for and prioritize enrollment of these groups (proportionate to their cancer incidence) in future clinical studies. The resulting discoveries can then be used to personalize treatments for underrepresented racial and ethnic groups in cancer with greater confidence.[20,24]

MDT, multidisciplinary team.

Socioeconomic disparities can affect biomarker testing and precision medicine outcomes[21]

A systematic review and meta-analysis found that persons with low socioeconomic status were[21]:



17%

less likely to be treated with precision therapies

Further, the intersection of social determinants of health with environmental, and genomic and/or biologic factors and how they influence disease outcomes is not well understood, and highlights the need to capture more data in future precision medicine studies to evaluate the level of impact on health outcomes.[20]

MDT collaboration can help improve equitable access to precision medicine[20]

Standardized testing and reporting protocols to identify and treat all patients eligible for targeted therapies

Improved **education** on biomarker testing, genetic studies, and genetic counseling in patients living with cancer

Strengthening formal **support systems, verbal communication** strategies, and **MDT coordination** to address health literacy barriers on biomarker testing for patients with cancer

Continued implementation of strategies to **target economic barriers** to testing and treatment

Increased advocacy for **diversifying patient recruitment** to clinical studies

MDT, multidisciplinary team.

Enhance your MDT's approach to biomarker testing to help improve patient outcomes[20]

Implement reflexive testing

Shorten the time to obtain molecular test results, minimize tissue insufficiencies, and increase your lab's testing capacity.[25] Reflexive testing may decrease average biomarker testing turnaround time by over 2 weeks.[25–29]

Pathologists generally drive reflexive testing protocols, for example, by sharing test results directly with genetic counselors to minimize the potential of missed patients.[27]

Connect patients with a genetic counselor:

They are uniquely equipped to help MDTs identify people who may have a hereditary cause for their cancer. Promote greater access to genetic counseling services by[30]:

- Educating non-genetic healthcare providers
- Triaging patients according to expected complexity
- Offering telehealth services

Use consistent terminology:

Synoptic reporting and standard terminology allow for clearer communication of test results to the broader MDT, avoiding misunderstandings.[31]

Refer to our Glossary of common terms in precision medicine:

View Glossary →

Form a molecular tumor board:

This multidisciplinary panel convenes regularly to discuss important results during care. This can aid the interpretation of complex genomic data and improve a patient's access to targeted therapies.[32,33] One study found over half of board-reviewed biomarker testing results led to a change in a patient's treatment plan.[34]

Find practical tips on forming a molecular tumor board along with discussions about common challenges and potential solutions.

Form a molecular tumor board →

Designate a team member to coordinate care:

Patient navigators play a crucial role in providing patients with education, support, and bridging communication with the broader care team.[35]

Access ASCO's Cancer.net podcast, explaining the benefits of patient navigators and how to implement a navigation process:

Assign a patient navigator →

ASCO, American Society for Clinical Oncology; MDT, multidisciplinary team.

CAP Cancer Protocols provide biomarker reporting guidelines outlining essential reporting elements based on the latest standards.[36]

Read CAP guidelines

CAP, College of American Pathologists.

Considerations for Your Practice

The full potential of precision medicine to transform the lives of patients with cancer relies on addressing health inequities and offering optimized testing workflows that consider[1,19]:

- Pathologist-driven (reflexive) biomarker testing
- Increasing access to genetic counselors, e.g. with telehealth
- Ongoing patient education to increase awareness in all communities and build trust
- Ongoing MDT education to address knowledge gaps and inform decision-making
- Focused strategies to increase clinical study enrollment and representation of patients from various racial and ethnic groups to ensure that diverse communities can benefit from precision medicine
- Standardizing terminology and reporting
- Keeping regular molecular tumor boards
- Appointing patient navigators to support patients throughout their biomarker testing journey and help remove barriers to treatment

MDT, multidisciplinary team.

Helpful Resources

Check out these featured resources to drive understanding and uptake of biomarker testing.

Add your preferred resources to **My Favorites**—a personalized list of resources to download and share with your peers or patients.

View My Favorites

▶

2:07 MIN

FOR PATIENTS

What your genetic test means for your family members

▶

1:55 MIN

FOR PATIENTS

Genetic testing: How much does it really cost?

▶

2:18 MIN

FOR PATIENTS

How does GINA protect you?

Share this brief explanation with your patients on how germline (or inherited) genetic mutations can provide information to other family members if they choose to pursue genetic testing for hereditary cancer risk.

+ Add to My Favorites

Share this video with patients to give a brief overview of insurance coverage of genetic testing, including what information may be needed, and questions or considerations for patients and their healthcare team.

+ Add to My Favorites

Share the Genetic Information Nondiscrimination Act (GINA) with your patients to highlight benefits and limitations of this law as it pertains to genetic testing.

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Contact our Precision Medicine Team for support optimizing testing workflows and increasing MDT collaboration.

Connect With Us

MDT, multidisciplinary team.

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