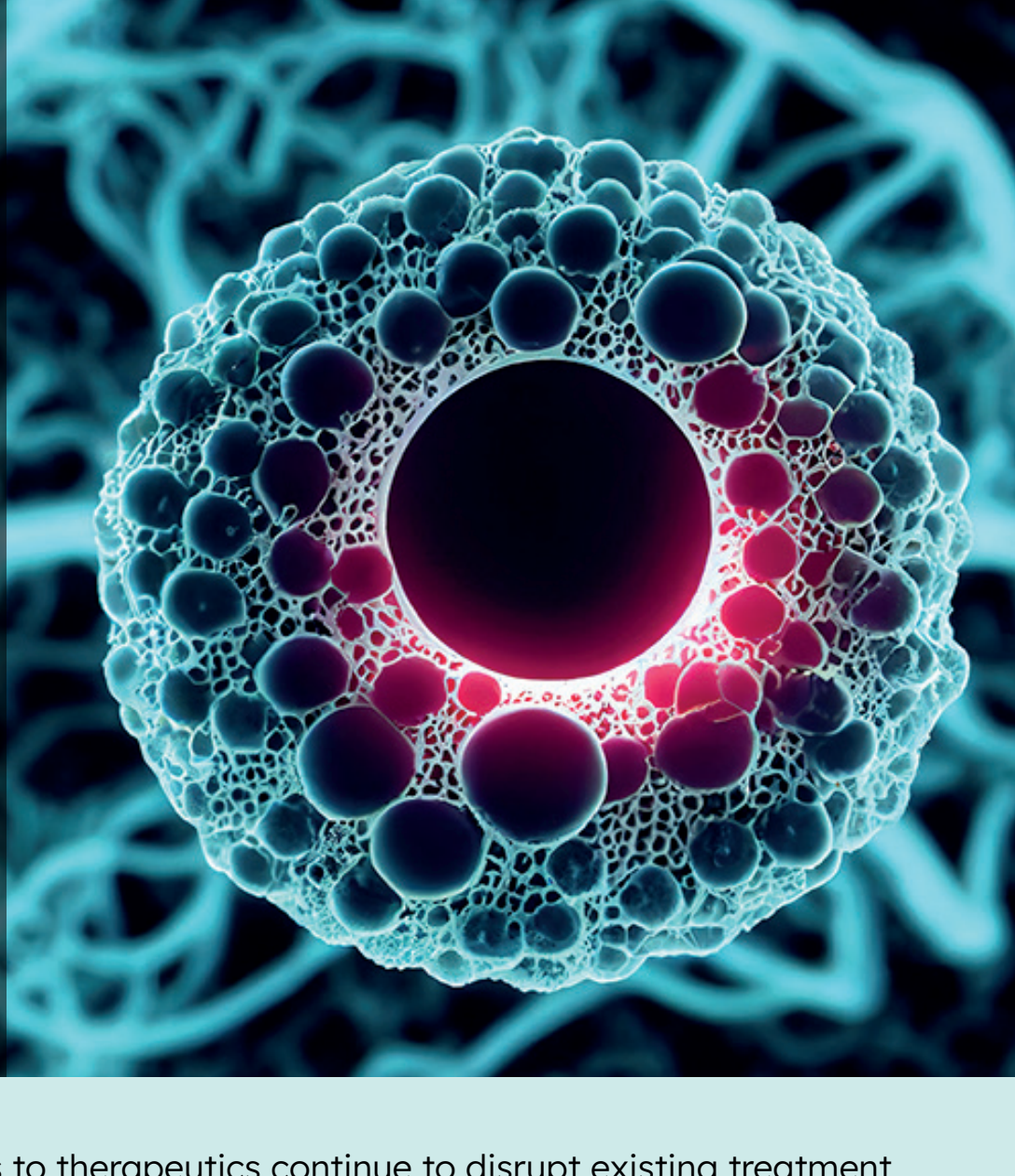


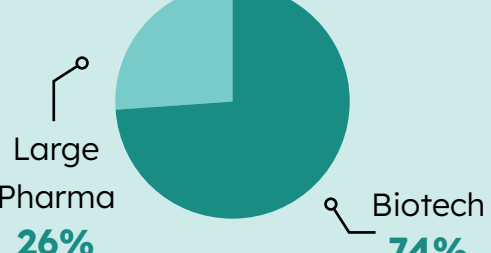
Advancing Drug Development In Oncology

Key Opportunities & Challenges For Biotechs In This Evolving Space



Groundbreaking discoveries and novel approaches to therapeutics continue to disrupt existing treatment paradigms in oncology. However, with so many complex factors impacting the speed and success of drug development in this sector, it is difficult to ascertain where exactly organizations are experiencing the biggest pain points in a drug's lifecycle. Citeline and ICON Biotech set out to understand the industry's perspective on this critical topic, in addition to how life sciences organizations can accelerate drug development in oncology moving forward.

Survey Respondents

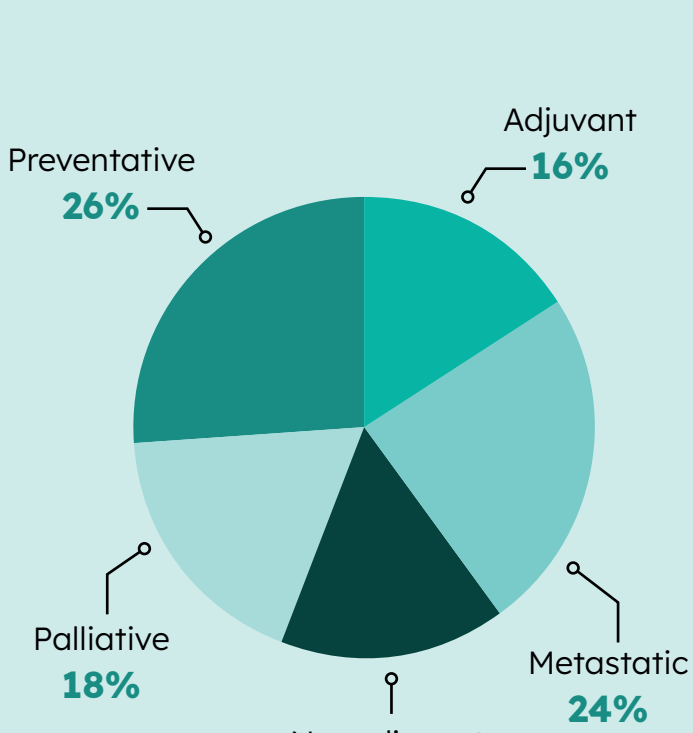


Over 100 industry professionals in North America and Europe were surveyed to capture insights on current trends and obstacles observed within the oncology R&D landscape. Of those, 74 represented biotech companies. The following infographic highlights the key biotech findings from the survey and how industry can use the data to get cancer treatments to patients faster.

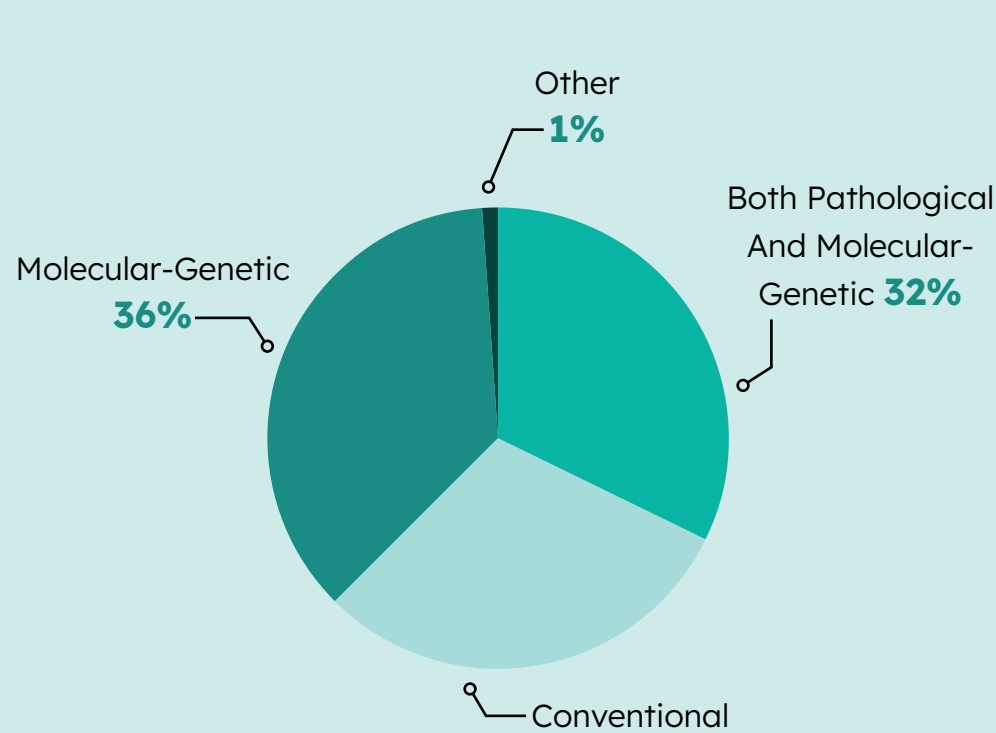
Therapeutic Pipeline In Oncology

Most biotechs are developing **at least two** therapeutic approaches, a majority (59%) of which are **Combination therapies** versus Monotherapies. Therapeutic setting and cancer categorization methods across therapeutic approaches vary widely.

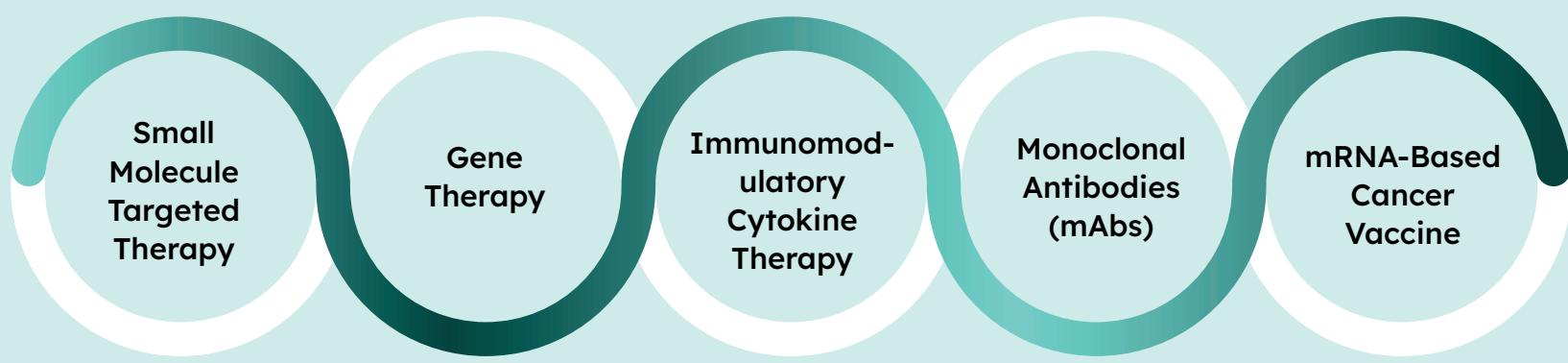
Therapy Setting



Cancer Categorization Method



Cell and gene therapies, Targeted therapies and Immunotherapies are the top three high-level therapeutic approaches. Taking a deeper look into specific therapies being developed, the following were the most common:



What Are The Key Challenges In Oncology Drug Development?

Therapeutic Challenges

Predicting patient response (biomarker identification) was the most significant therapeutic challenge for biotechs, followed by:

- Harmful or toxic side effects (49%)
- Potency control difficulty (45%)
- Dosage selection difficulty (41%)
- Immune system neutralization (35%)
- Off-target effects and inflammation (35%)

Clinical Development Challenges

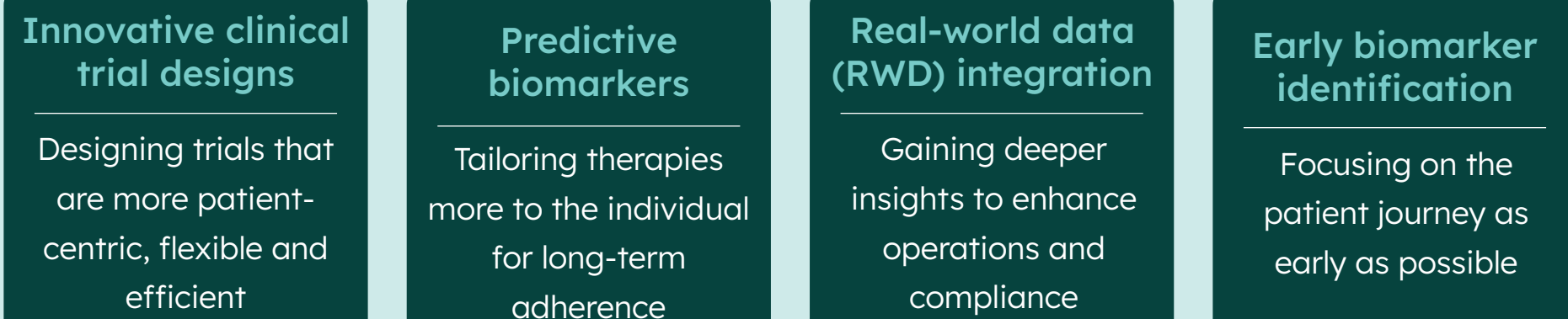
Identifying and selecting experienced trial sites was the most significant clinical development challenge, followed by:

- Conducting long-term patient follow-up after trial (46%)
- Drawing statistically significant conclusions with small cohorts (45%)
- Managing complex logistics for therapy supply and manufacture (41%)
- Transitioning from preclinical to first-in-human trials (39%)

The most challenging phases of clinical development for biotechs are **Phase II** and **Phase III** clinical trials.

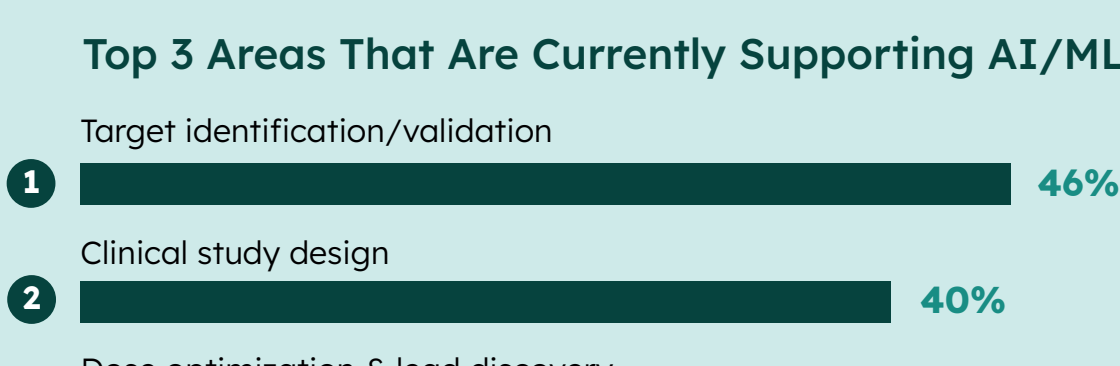
How Can The Industry Improve Oncology Drug Development?

The top four ways to improve overall drug development in oncology are:

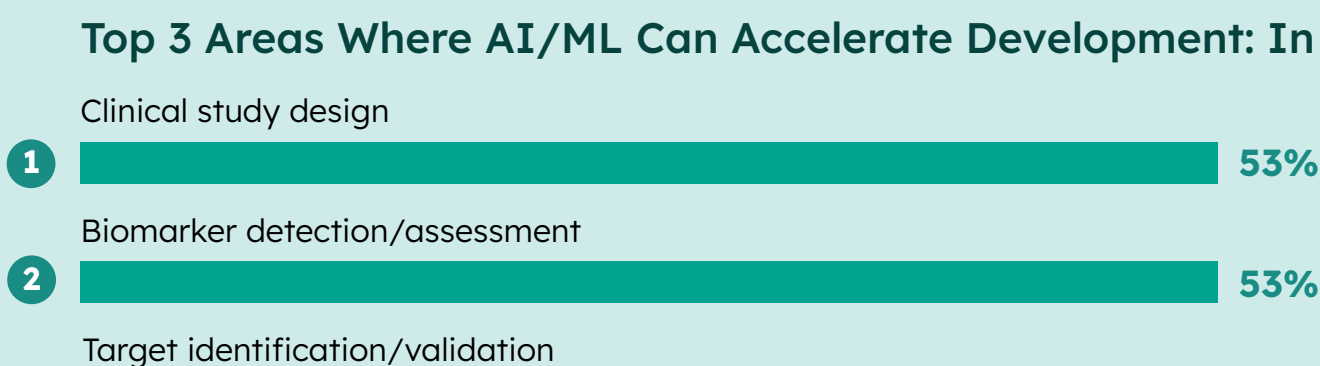


Biotechs are also taking advantage of advanced tools to improve development, with **68%** currently using **artificial intelligence (AI) and/or machine learning (ML)** in oncology R&D.

Top 3 Areas That Are Currently Supporting AI/ML Methods

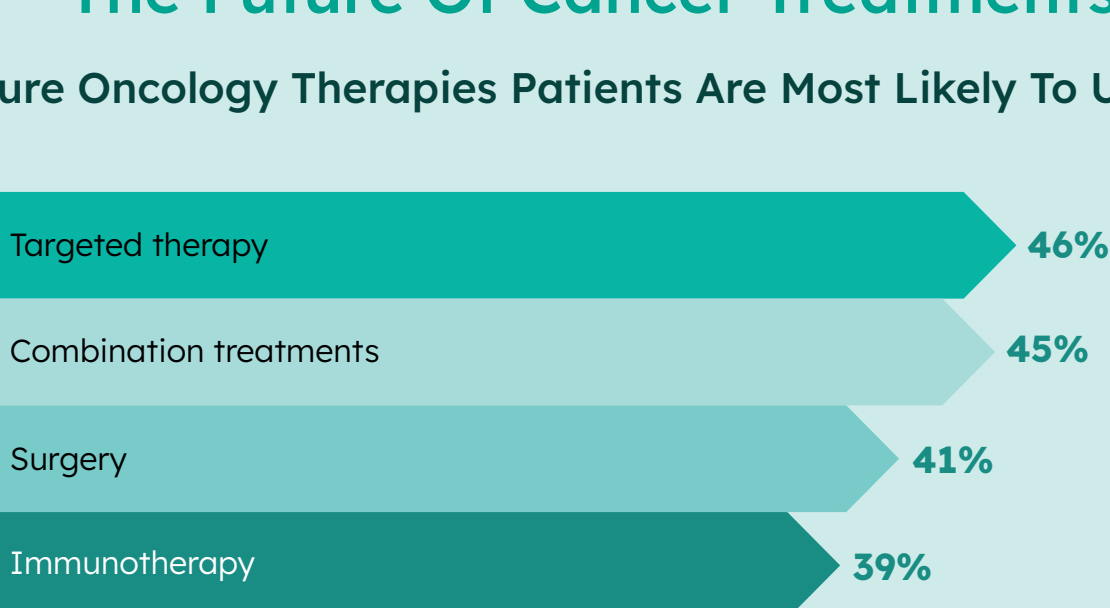


Top 3 Areas Where AI/ML Can Accelerate Development: In The Future



The Future Of Cancer Treatments

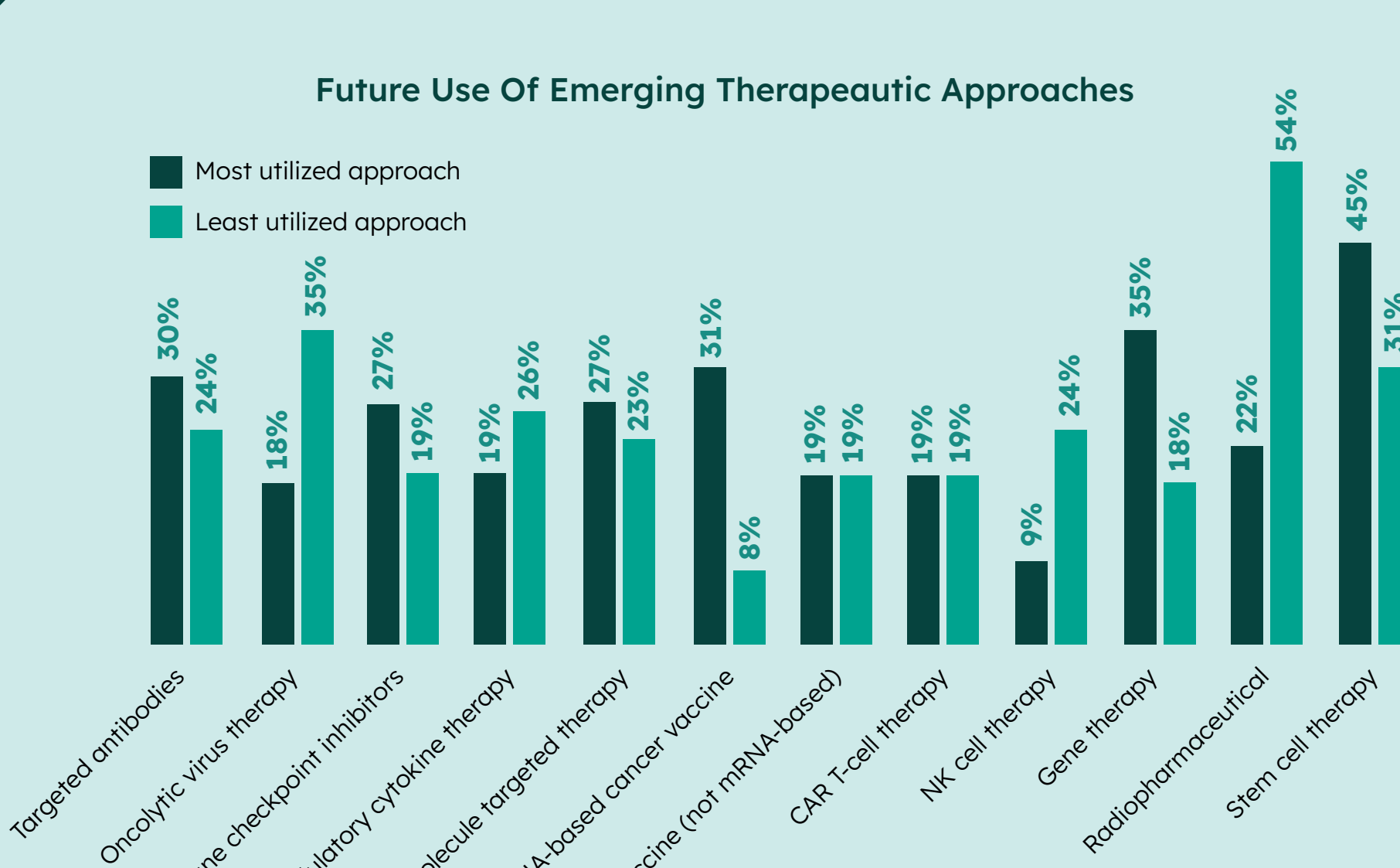
Future Oncology Therapies Patients Are Most Likely To Undergo



46% of biotechs believe that the oncology treatment paradigm is headed in the direction of **personalized medicine**, with Targeted therapy, Combination treatments and Immunotherapy viewed as the leading approaches for future patients to undergo.

There is much excitement around novel modalities, with **Stem cell therapy** being a promising area of innovation in future oncology therapeutic development.

Future Use Of Emerging Therapeutic Approaches



Regardless of what therapeutic approaches will be most popular moving forward, about **55%** of biotechs believe that patient outcomes will **moderately or dramatically improve within the next 10 years**. In summary, here are a few trends to keep an eye on in oncology:



To get a deeper analysis of the data collected from this survey, read [ICON's whitepaper](#).

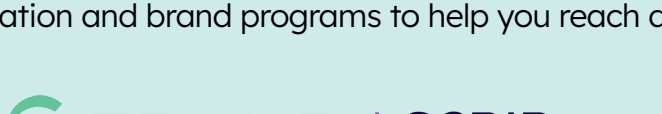


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Our global teams of analysts, journalists and consultants keep their fingers on the pulse of the pharmaceutical, biomedical and medtech industries, covering it all with expert insights: key diseases, clinical trials, drug R&D and approvals, market forecasts and more.

Source: Citeline & ICON's Innovation In Oncology: Accelerating R&D In An Evolving Landscape Survey (May 2024)