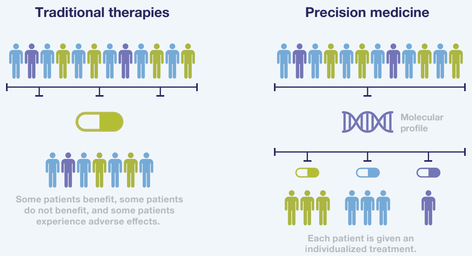
Targeted therapies help improve oncology patient outcomes

Precision medicine is enabled by molecular profiling

Today, drugs can be selected to directly target the biological pathways causing the disease, while avoiding suboptimal therapies. Using a molecular profile of a patient's cancer, treatment plans can be uniquely tailored to help provide the best potential outcome.

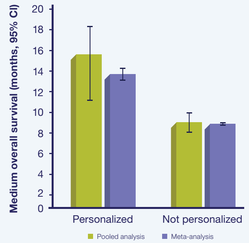


Precision oncology helps improve patient outcomes

Precision oncology can add months to the lives of Stage IV cancer patients if treatment selection is biomarker-guided. Below are results from a pooled analysis and meta-analysis comparing personalized strategies versus non-personalized strategies for overall survival.

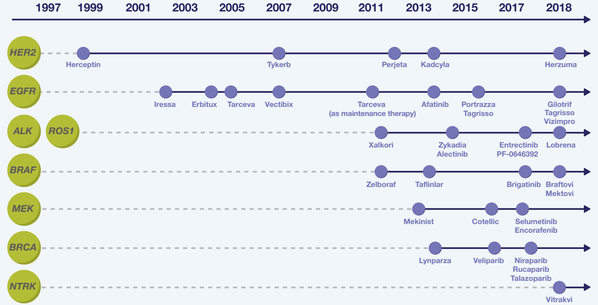
Impact of Precision Medicine in Diverse Cancers: A Meta-Analysis of Phase II Clinical Trials *J Clin Oncol.* 2015 Nov 10; 33(32): 3817–3825. 24. doi: 10.1200/JCO.2015.61.5997.

Medium overall survival
(months, 95% CI)



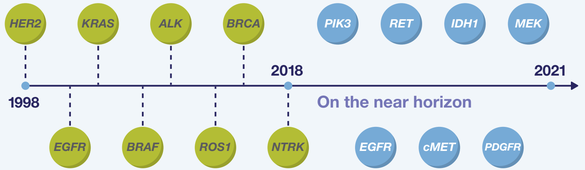
Available targeted medicines—solid tumors

Over the last 20 years, the development of targeted therapies has accelerated and there are a large number currently available. Testing for relevant, actionable genetic alterations (biomarkers) has become a necessary and routine part of the oncology patient management process.



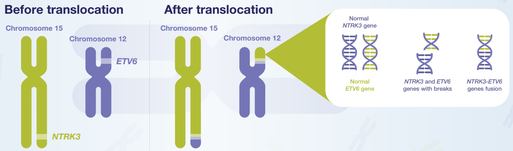
Biomarker development is accelerating

While it took almost 20 years for the first biomarkers (genomic alterations) to become targets of oncology precision medicines and to be routinely analyzed, there are many new candidates in late-stage clinical trials, and we can expect the spectrum to grow rapidly.

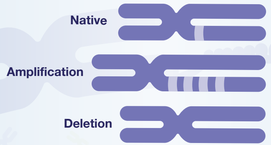


73% of medicines in oncology pipelines have associated biomarkers

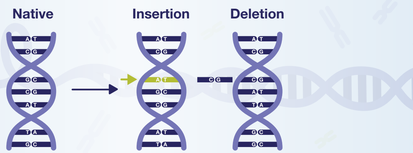
Gene translocations and fusions, e.g., *NTRK3*



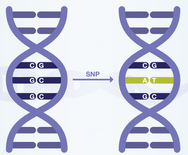
Gene copy number variations (CNVs), e.g., *HER2*



Insertions and deletions (indels), e.g., *EGFR* exon 19



Single-nucleotide polymorphisms (SNPs), e.g., *BRAF* V600E



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