

BMS is harnessing AI to power a new model for discovery

Bristol Myers Squibb is applying artificial intelligence (AI) across research to help build a continuously learning discovery system — where every experiment, data readout and partnership leads to faster, more informed decision-making and greater impact for patients.

What challenges in drug discovery does AI address?

Currently, only about 10% of investigative medicines go on to ultimately become approved therapies, representing a central challenge in drug discovery and development.¹

BMS is leveraging AI across research to:



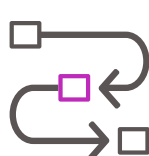
Advance promising medicines earlier



Improve decision quality and velocity



Accelerate research processes



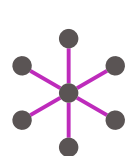
Ease operational burden

BMS' integrated approach to leveraging AI

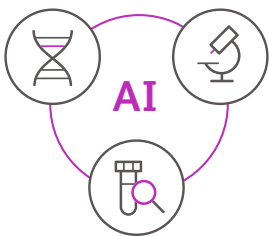
BMS’ approach to AI in research is to build an integrated learning ecosystem, spanning discovery through clinical development and grounded in our [R&D principles](#).

In practice, BMS is applying AI to strengthen target selection based on causal human biology, match the right therapeutic modality to the underlying disease and enhance early clinical testing to improve the probability of success.

This work is supported by several defining features:

 Scientist-led innovation BMS is empowering scientists by equipping them with both commercially available and internally developed AI tools, amplifying their ability to evaluate hypotheses at greater scale, while maintaining decision accountability	 Proprietary data, at scale Decades of internally generated data are being unified into a shared system to support continuous learning
 Collaborative ecosystem Strategic partnerships expand access to complementary datasets and technologies	 Focused application AI is being deployed in areas where BMS has deep scientific experience to build on existing strengths
 End-to-end design Efforts are focused on integrating AI across the research continuum, linking discovery, experimentation and clinical learning, all compounding into better science at every step	⌚ BMS uses AI/ML to design nearly all of their small molecules and about half of their larger, more complex therapies before a single lab test is run, saving time and resources ⌚ As a result, AI allows BMS to move promising potential medicines into the early stages of drug development 30% faster than without AI

Together, these elements support a coordinated and adaptive approach to advancing research — where insights and data can build on one another over time.



By embedding the right AI tools within research and drug development, BMS is building a more integrated and scalable path from scientific discovery to patient impact — contributing to a more intentional and efficient future for drug discovery.

REFERENCES:
1. Sun D, Gao W, Hu H, Zhou S. Why 90% of clinical drug development fails and how to improve it? *Acta Pharm Sin B*. 2022 Jul;12(7):3049-3062.