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The current & future impact of AI on pharmaceutical R&D

Insights from Norstella's 2024 AI survey

Artificial intelligence (AI) continues to disrupt existing paradigms in drug development, with early adopters experiencing both the benefits and challenges[1] of this innovative technology. With that in mind, Norstella surveyed 125 senior decision-makers in the life sciences industry on their perceptions and expectations of AI to understand current AI adoption trends in addition to the future impact of AI on pharmaceutical R&D. The following infographic provides a snapshot of the survey's key results.

What is the current state of AI adoption?

81% of the survey participants are using **AI in at least one development program.** Of those that are not currently using AI, over **50%** are **planning to do so** in future development programs. Organizations are using AI the most in the following pharmaceutical R&D workflows:

30% Predictive modeling

28% New drug candidate identification and selection

27% Safety assessment

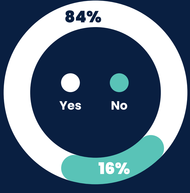
23% Generating labs

23% Patient seclection & recruitment

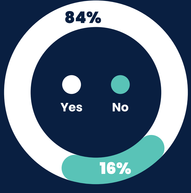
Lack of AI expertise is the main reason for the limited adoption of AI into pharmaceutical R&D workflows (71%), followed by lack of awareness / knowledge of AI (43%).

The majority of organizations **encourage the use of AI** and have hired new employees or **allocated new departments to focus on AI** in drug development.

Leadership commitment



AI resourcing



How has AI integration changed pharmaceutical R&D?

The main benefits of using AI in drug development include:

- Improving operational efficiency
- Reducing costs
- Improving diagnostics

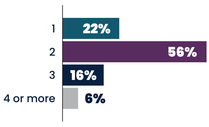
The main challenges when using AI in drug development include:

- Integrating data from multiple sources
- Encountering biased AI algorithms
- Performing complex data analysis

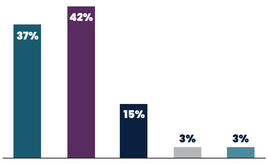
The skills required within **66% of organizations have changed** due to the introduction of AI.

Sponsors are **partnering** with organizations that have AI capabilities to accelerate drug development. **79%** of the industry feel that **AI partnerships are moderately to extremely valuable** in relation to overall pharmaceutical R&D success.

Current number of AI partnerships



The value of AI partnering



What impact will AI have on pharmaceutical R&D in the future?

Nearly all decision-makers believe that existing and future AI policies and regulations will have some level of impact on AI use in drug development.

Looking ahead, **95%** of the life sciences professionals believe that **AI** will be used **in at least one of their development programs.** Organizations predict that AI will be used the most in the following pharmaceutical R&D workflows:

58% Predictive modeling

36% New drug candidate identification and selection

35% Clinical trial protocol design

35% Safety assessment

30% Efficacy assessment

The future is bright with regards to AI integration in the pharmaceutical R&D landscape, with **74%** of the survey participants feeling **optimistic.** In the next five years, organizations expect AI use across all phases of drug development, but **most implementation in the discovery / development phase.**

How does Norstella serve as a trusted AI partner?

Norstella is committed to helping life sciences organizations **overcome strategic and operational barriers** at every stay of drug development. With our **data-driven solutions and AI-powered clinical trial enhancement tools,** we help sponsors navigate:

- **Market dynamics**
- **Feasibility & site selection**
- **Protocol design**
- **Regulatory challenges**

For more information on how Norstella is integrating AI into its data and advisory services, **read Norstella's whitepaper.**

Partner with Norstella →

At Norstella, we help you connect the dots with predictive analytics, real-world data, machine learning, and more to successfully develop, launch and market your product. **Need actionable answers to your pharma development and commercialization questions? Let's connect.**

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Resource

1. State of the industry: AI advances in pharmaceutical R&D survey (2024)