Insights from bPrescient

INSIGHTS ON TECHNICAL INNOVATION IN BIOTECH AND PHARMA

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AGENTIC AI IS TRANSFORMING BIOPHARMA

Agentic AI is rapidly emerging as a transformative technology across pharma and biotech, moving beyond static models toward systems that can plan, act, evaluate, and iterate autonomously. Unlike traditional AI implementations, these systems can orchestrate complex, multi-step workflows. They can integrate data from internal and external sources, leverage specialized tools, and continuously refine outputs. This enables high-value applications such as semantic extraction from unstructured scientific data and end-to-end workflow orchestration across research and clinical development. In practice, agentic AI serves as a **powerful extension of scientific and operational teams**, being guided by human expertise rather than replacing it.

At bPrescient, we are actively engaging with our clients to identify and prioritize the **highest-value use cases for agentic applications**. Leading areas for change include biomarker identification, DMTA cycle optimization and patient stratification, where agents synthesize vast, heterogeneous datasets and generate actionable insights, sometimes in near real time. Agentic systems are also particularly effective in “long-tail” discovery by surfacing non-obvious connections across literature, datasets, and prior studies, and in continuously evolving contexts such as competitive intelligence or portfolio monitoring.

Importantly, the power of AI can also allow the industry to think about a **total reimagination of the drug development process** which is not constrained by existing workflows and processes. Realizing this potential, however, requires thoughtful implementation. Successful deployments depend on well-designed workflows, strong evaluation frameworks, and close collaboration between domain experts and technologists. Early-stage agents should be deployed with appropriate guardrails and human oversight, with performance data feeding an iterative improvement cycle.

As adoption scales, organizations will also need standardized architectures to support growing agent ecosystems. Looking ahead, we see significant opportunity in **reusable, configurable agent solutions** that can be rapidly deployed and tailored. Such solutions will accelerate time to value while maintaining the flexibility required in complex pharma and biotech environments. **Get in touch** to discuss ways bPrescient can help.

Get In Touch

Join bPrescient in Boston on May 19-21 for Bio-IT World, the world's leading science and IT conference. Bio-IT World brings together experts in a wide range of topics relevant to biotechnology and pharmaceutical companies, including innovative AI and agentic tools, lab automation, data management platforms, and bioinformatics.

Our CEO Grant Stephen will be chairing a session on the real-world clinical impact of AI insights and our Account Executives Shane Scott and Iona McCall will be in attendance. They're all available to discuss your latest business challenges in research and clinical development and how our consultants provide cutting-edge technology solutions. Grant, Shane, and Iona will be attending presentations and panels, walking the exhibit hall, and meeting with clients throughout the conference, so please reach out to sscott@bprescient.com and imccall@bprescient.com to schedule a time to talk.