NIH Strategic Plan for Artificial Intelligence

National Institutes of Health
U.S. Department of Health and Human Services

FY2027-FY2029

National Institutes of Health
Turning Discovery Into Health



1. AI is changing biomedical research – and NIH is uniquely positioned to shape how.

NIH is both the world's largest public investor in biomedical research and the steward of the nation's data, research cohorts, and scientific infrastructure – giving it a unique ability to shape how AI is used in science.

2. But if NIH doesn't lead, the field will move without us.

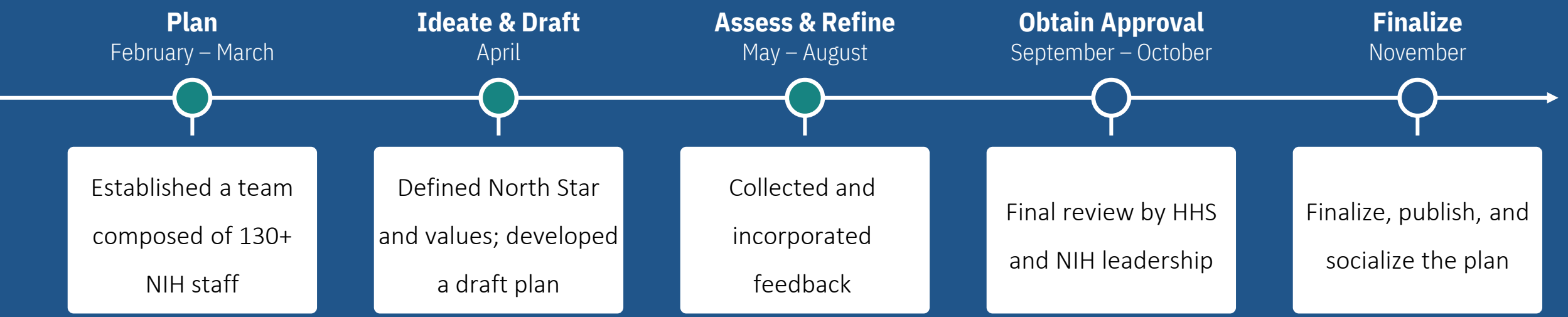
AI will reshape biomedical science whether or not NIH leads that transformation. Without deliberate NIH leadership, research risks becoming less reproducible, trusted, and equitable – and global AI standards may be set without NIH's scientific rigor.

3. So we're acting now – to shape AI, not just adopt it.

The NIH AI Strategic Plan positions NIH to shape – not just adopt –trustworthy biomedical AI: setting the standards, infrastructure, and partnerships that determine how AI tools are validated, trusted, and deployed across the ecosystem, while sustaining public trust in the Gold Standard Science.

Strategic Planning Process

The strategic planning process started in February 2026 and emphasized community engagement and feedback.



Feedback Mechanisms:

To date, we collected input via a public RFI, NIH survey, and feedback sessions with 150+ NIH staff and all ICs.



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North Star

NIH must enable, support, and encourage trustworthy, AI-based acceleration of science.

Values Guiding the Strategy

1. Advance the NIH Mission	AI must measurably accelerate discovery and improve human health – every use is judged by its impact.
2. Value Human Ingenuity First	AI amplifies, not replaces, human creativity, judgment, and accountability in science and care.
3. Uphold Trust Through Responsibility & Stewardship	AI use is grounded in ethics, transparency, security, and privacy – across NIH's internal and extramural work.
4. Sustain Trust in NIH & in Science	Researchers trust the data and results, patients trust the care, and the public trusts NIH's stewardship.
5. Democratize Opportunity & Responsible Access	AI's benefits reach the whole research ecosystem, paired with the training that makes access meaningful.
6. Foster a Collaborative Ecosystem	Progress is strengthened by diverse perspectives across disciplines, institutions, and communities.
7. Secure by Design	Security, privacy, and data protection are built into AI systems from the start, not added later.
8. Maintain Clear Strategic Boundaries	NIH focuses on scientific discovery and research standards, relying on HHS/OMB frameworks for general IT and governance.
9. Maintain Neutrality & Scientific Integrity; Drive Open, Accessible Standards	NIH sets scientific standards for trustworthy AI while staying vendor-neutral and championing open science.

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Strategic Goals

The NIH AI Strategy sets **five goals** for the next three years and will be revisited on an annual cycle as AI capabilities and the research landscape evolve.

Goal 1: Ensuring US AI Leadership at the Horizon of Biomedicine

Objective

Build a standing foresight, portfolio, and impact-assessment capability so NIH shapes where biomedical AI is headed and strategically invests with discipline.

Outcome

NIH shapes AI investment and governance priorities proactively and at pace with the rapidly changing AI landscape.

Example Implementation Priorities

- Build AI foresight capacity
- Conduct AI reviews across intramural programs to identify resources gaps
- Maintain an AI registry for visibility across the lifecycle

Goal 2: Accelerating the Biomedical AI Ecosystem

Objective

Make NIH data AI-ready (MCP, agentic), build or partner on secure and federated compute, and integrate validated AI across the research enterprise.

Outcome

A connected, AI-enabled data and model ecosystem that speeds up discovery-to-health translation.

Example Implementation Priorities

- Use Bio Genesis Challenges to drive priority investment areas (e.g., pediatric cancer, chronic disease, drug discovery)
- Extend federated AI, agent-access infrastructure
- Build the Bio Genesis Implementation Platform to coordinate AI programs

Goal 3: Improving AI Governance and Security to Enable Innovation

Objective

Establish proportionate, lifecycle governance and AI-specific security that enables innovation by preventing costly failures.

Outcome

AI acceleration proceeds as fast as it safely can, with public trust intact.

Example Implementation Priorities

- Establish participatory governance with researchers, ethicists, and other stakeholders
- Understand attack surfaces and risk mitigation for enterprise AI
- Require standard TEVV documentation for all enterprise AI tools

Goal 4: Access, Capacity, and AI Community Building at Scale

Objective

Build AI literacy, specialized expertise, and career pathways across NIH and the communities it supports.

Outcome

A workforce as fluent in AI methods as in the science, operations, and professional disciplines that drive NIH's mission. A research community prepared for the acceleration of science AI will enable.

Example Implementation Priorities

- Extend shared AI testing environments, prioritizing under-resourced institutions
- Establish or extend AI fellowship tracks to promote AI-enabled science
- Support staff through structured change management and upskilling

Goal 5: Translating AI-Enabled Research into Health Outcomes

Objective

Coordinate across federal, academic, industry, and community partners to move validated AI into discoveries that advance real-world health impact.

Outcome

A shorter, more reliable, more transparent path from discovery to health impact.

Example Implementation Priorities

- Support consortia beyond individual grant cycles
- Improve partnerships with commercial vendors
- Strengthen FDA collaboration for translation
- Strengthen procurement to reduce vendor lock-in

Discussion and Questions

If you have questions after this conversation, please contact me at brad.bower@nih.gov.