

AI IN HEOR

What Leaders Must Get Right
Before Asking About AI Tools

**CONNECT AI: HEOR THINKING FOR AN
AI-ENABLED ERA**

www.connectheor.com

Publisher's Note

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AI has already entered HEOR.

Not as a future capability, but as a present force reshaping how evidence is generated, reviewed, and challenged.

Yet many of the current conversations around AI in HEOR remain narrowly focused on tools, pilots, demonstrations and incremental efficiency gains. This is not just incomplete. It is risky. Because AI is not simply accelerating existing HEOR processes. It is exposing where those processes lack clarity, consistency, and defensibility. The organizations that will struggle are not those slow to adopt AI. They are the ones that adopt it without redefining how decisions are made, governed, and defended.

This first edition of Connect AI was written to to shift that conversation:
[from capability to accountability.](#)

The intention of this white paper is to reframe AI as a leadership and operating model challenge before it becomes a technology one. It argues that the most critical decisions are not about what AI can do, but about what must remain human, how judgment is exercised, and how accountability is preserved as speed increases.

The ideas presented here are shaped by practical experience across HEOR strategy, modelling, HTA engagement, and evidence development, alongside real-world experimentation with AI systems embedded within decision workflows. They reflect a conviction that AI, when designed thoughtfully, can strengthen rigor rather than erode it — but only if leaders set the right foundations.

Connect AI is intended as a long-term series. Each edition will explore a different dimension of how HEOR must evolve in an AI-enabled era - spanning governance, talent, operating models, and decision logic. This first edition focuses deliberately on what must be addressed before tools enter the conversation.

If this white paper succeeds, it will not provide answers for every context. Instead, it will help leaders ask better questions - of their teams, their partners, and themselves.

—

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AI in HEOR: What Leaders Must Get Right Before Asking About Tools

Most HEOR leaders are asking the wrong AI questions.

Not because they lack intelligence or ambition.

But because AI is still being approached as a capability add-on, not a strategic shift.

Common questions sound like:

- Which AI platform should we use?
- Which vendor has the best AI models?
- Can AI speed up SLRs or modelling?
- Can we automate HTA responses?

These are reasonable questions. They are also premature. Because AI does not sit on top of HEOR.

AI reshapes what HEOR is, how evidence is generated, how fast it moves, and where human judgment truly matters

The HEOR functions that will succeed over the next 3–5 years will not be the ones running the most pilots. They will be the ones that redesign evidence strategy, governance, and decision logic around AI.

This white paper is written for HEOR Strategy Heads, Directors, and Senior Leaders who want to use AI without compromising credibility, compliance, or trust.

The Core Shift: From Evidence Production to Evidence Orchestration

Traditional HEOR operates as evidence production

Defined deliverables. Fixed timelines. Outputs that are reviewed, submitted, and archived.

Run an SLR → Meta analysis/ITC → Model → Writing → Submission → Update

AI forces a fundamentally different operating model.

In an AI-enabled HEOR function:

- Evidence is continuously generated, not episodic
- Assumptions are explicit and traceable, not embedded in spreadsheets
- Models become living decision systems, not static deliverables
- Speed becomes an expectation, not a differentiator

AI does not replace HEOR judgment.

It makes weak judgment visible faster than before.

This is why leadership framing matters more than tooling.

Step 1: Get Clear on What Must Never Be Automated

Before asking partners or vendors what their AI can do, leaders must answer a harder question:

Which HEOR decisions require irreducible human judgment?

Examples include:

- Value framing and narrative strategy
- Assumption selection under uncertainty
- HTA risk appetite decisions
- Trade-offs between clinical plausibility and payer acceptability
- Ethical and patient-centric considerations

AI can support these decisions. It must not silently replace them.

Leadership signal:

If your team cannot clearly articulate where AI must stop, you are not ready to scale it.

Step 2: Fix the Foundations AI Will Expose

AI does not solve all HEOR problems. It magnifies structural weaknesses.

Common fault lines AI will surface immediately:

- Inconsistent endpoint definitions across programs
- Unclear model ownership and version control
- Assumptions driven by analyst preference rather than strategy
- HTA logic that lives in individuals' heads
- Evidence processes dependent on heroics

**If HEOR outputs require explanations such as: "this is how we usually do it"
AI will convert that into risk.**

Leadership signal:

If two HEOR consultants cannot independently explain the same model logic in the same way, AI will not fix that.

Step 3: Decide What “Speed with Trust” Means in HEOR

AI delivers speed. HTA demands trust.

Speed without trust leads to:

- Rejected submissions
- Credibility erosion with payers
- Internal governance paralysis

Trust without speed leads to:

- Missed HTA windows
- Reactive evidence strategies
- Competitive disadvantage

HEOR leaders must explicitly define:

- Where speed is non-negotiable
- Where validation gates must exist
- What “explainability” means across models, SLRs, and analytics

These definitions will vary by market, indication, and HTA context. That variability must be designed for, not ignored.

Leadership signal:

If you cannot explain how an AI-supported output would be defended in front of NICE, G-BA, or ICER, it is not ready.

Step 4: Reframe the Role of HEOR Talent

AI does not reduce the need for HEOR talent.

It changes where talent creates value and redistribute the effort accordingly.

Future HEOR value concentrates around:

- Strategy design
- Assumption governance
- Evidence synthesis across sources
- Scenario thinking under uncertainty
- Communication with payers and internal stakeholders

Leaders should ask:

- Which tasks are slowing down high-value thinkers?
- Where is expertise being consumed by manual work?
- How do we upskill without turning HEOR into an IT function?

Leadership signal:

If AI adoption discussions create fear rather than curiosity, leadership framing is failing.

Step 5: Ask the Right Questions of AI Partners (Not the Easy Ones)

Most AI conversations still begin with demonstrations or free trials. That framing works well for traditional SaaS tools.

It is poorly suited for AI systems that function as active collaborators within HEOR workflows.

AI agents are not static applications that can be meaningfully evaluated through a short demo or a generic trial environment. They are continuously operating systems that respond to context, interact with evolving evidence, and shape how decisions are explored over time. Their value emerges through use, integration, and judgment, not observation.

As a result, familiar questions such as:

“What do we get from the demo?”

or

“What is included in the free trial?”

often create false confidence rather than real understanding.

A more appropriate framing is to evaluate AI as a form of digital co-worker.

As with a human colleague, the most important questions are not about surface features, but about how the system thinks, how it is guided, and how it behaves under real HEOR conditions.

Meaningful evaluation therefore happens through hands-on collaboration, using real workflows, real data, and real decision contexts, rather than passive demonstrations.

A useful analogy is how organisations evaluate human expertise.

No senior HEOR leader would hire a modeler, strategist, or HTA expert based on a polished presentation alone. Capability is assessed through discussion, challenge, scenario exploration, and observation of judgment under uncertainty.

AI systems that function as decision collaborators should be evaluated in the same way.

The goal is not to see what the AI can do in isolation, but to understand how it operates within HEOR decision logic, governance structures, and HTA risk boundaries - how it reasons, where it hesitates, and how it responds when evidence is incomplete or contested.

Leadership signal:

If AI is evaluated using the same criteria as a traditional software vendor, organisations risk optimising for familiarity rather than fitness for HEOR decision-making.

The Questions HEOR Leaders Should Actually Ask

On Decision Scope and Boundaries

- Which HEOR decisions is this AI explicitly not designed to support?
- Where does the system stop and human judgment begin?
- How are escalation and override handled when outputs conflict with expert intuition or strategy?

On Context and Domain Understanding

- How is HEOR-specific context embedded into the system over time?
- How does the AI distinguish between methodological convention and strategic choice?
- How does it adapt to different indications, markets, and HTA environments without reintroducing inconsistency?

On Workflow Integration

- How does this AI operate within existing HEOR workflows rather than alongside them?
- How are outputs handed off between people, processes, and other systems?
- What changes for the team on day one, and what remains deliberately unchanged?

On Governance and Traceability

- Can every output be traced back to underlying assumptions, evidence sources, and prior states?
- How are assumptions logged, challenged, versioned, and retired over time?
- How is accountability preserved when AI contributes to an output?

On Validation and Risk Management

- How does the system behave when evidence is incomplete, conflicting, or low certainty?
- How are confidence levels communicated, not just results?
- How would an AI-supported output be defended during HTA review or audit?

On Evolution and Ownership

- How does the system evolve as evidence, models, and strategy evolve?
- How is logic drift or context decay identified and corrected?
- Who owns the system's behaviour over time — and how is that ownership operationalised?

Leadership signal:

If an AI partner focuses primarily on speed, automation, or surface-level accuracy, without addressing context, governance, and long-term behaviour, they do not yet understand HEOR risk.

Step 6: Design AI as an Operating Model, Not an Isolated Pilot

Pilots fail when they sit outside the real HEOR system.

Successful organizations:

- Embed AI into core evidence flows through interconnected agents and governed workflows
- Define ownership at the strategy level
- Align AI use with HTA timelines and governance
- Define KPIs of initiative
- Define role of human in these pilots.
- Treat AI outputs as first drafts, not final answers

When the operating model is clear, tools and agents become accelerators rather than sources of risk. Pilots should exist to inform operating model decisions, not to bypass them.

AI should reduce friction, not create parallel universes.

Leadership signal:

If AI outputs require a separate explanation process, adoption will stall.

Step 7: Lead the Narrative Internally and Externally

HEOR leaders must control the story.

Internally:

- AI is about better decisions, not fewer people
- AI supports judgment; it does not replace accountability
- Quality standards remain non-negotiable

Externally:

- AI-enabled HEOR remains HTA-compliant HEOR
- Transparency and rigor are strengthened, not diluted
- Patients and payers benefit from better, faster evidence

Leadership signal:

If stakeholders are unclear why AI is being used, leadership has not been explicit enough.

The Real Question HEOR Leaders Must Answer

AI is coming to HEOR whether leaders plan for it or not.

The real question is not:

“Which AI should we buy?”

It is:

“What must HEOR become in an AI-enabled world?”

In practice, this shift often starts small - with one workflow, one decision bottleneck, and a clear definition of success.

The goal is not to “implement AI,” but to redesign how evidence moves from question to decision, with transparency and trust preserved at every step.

The leaders who answer this first will:

- Move faster without losing trust
- Scale evidence intelligently
- Attract stronger talent
- Shape how value is defined, not just measured

Connect AI

Connect AI explores how life science industry must evolve in an AI-enabled world. The series focuses on leadership decisions, governance, and operating models - not tools or technology in isolation.

Each edition examines a different dimension of how evidence is generated, interpreted, and defended as speed, scale, and complexity increase.

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