

WHITE PAPER

Both sides of care: What AI learns when clinician and patient data connect

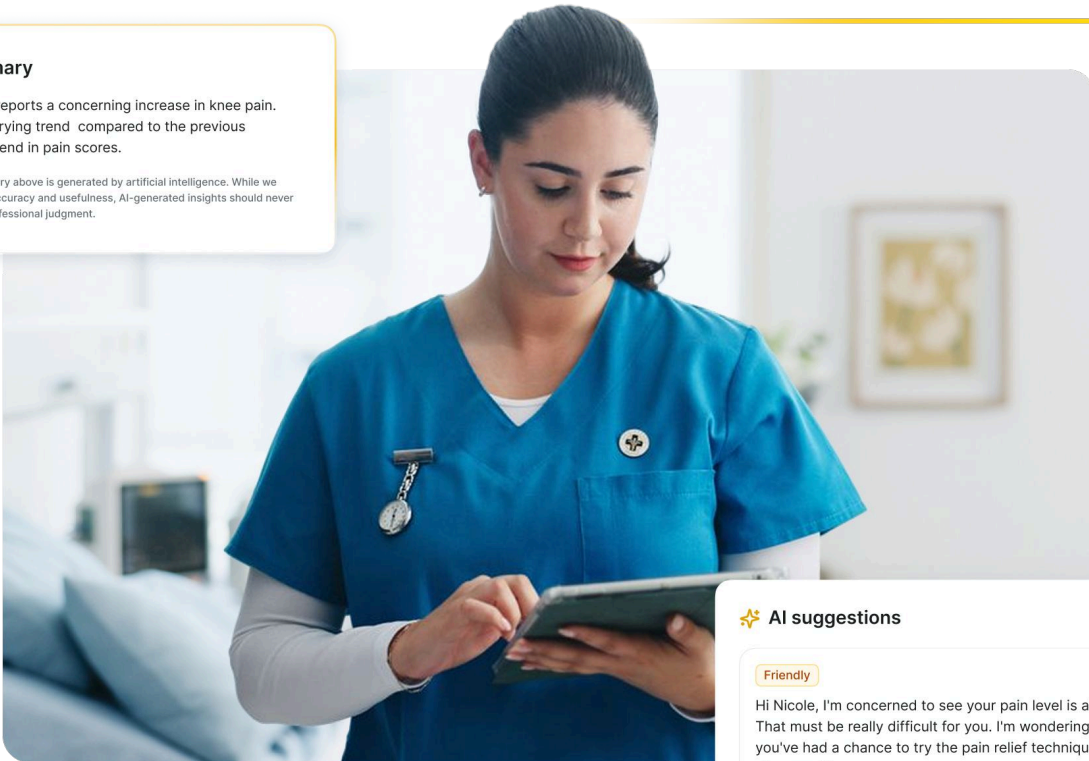
By Medbridge

Summary

The patient reports a concerning increase in knee pain. This is a worrying trend compared to the previous downward trend in pain scores.



The summary above is generated by artificial intelligence. While we strive for accuracy and usefulness, AI-generated insights should never replace professional judgment.



AI suggestions

Friendly

Hi Nicole, I'm concerned to see your pain level is at 8/10. That must be really difficult for you. I'm wondering if you've had a chance to try the pain relief techniques we discussed?

Rate this suggestion  

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Introduction: Not all healthcare AI is created equal

Artificial intelligence has become one of the most talked-about topics in healthcare, promising less admin work, more personalization, and more capacity without adding headcount. For healthcare leaders managing rising demand with the same team or an even smaller one, the interest is understandable.

But here's a question worth considering: What is your AI tool actually trained on? A healthcare AI tool trained on generic medical text behaves very differently from one trained on how real clinicians learn, how real patients engage, and how outcomes evolve over time. Both get marketed as “healthcare AI,” but only one of them has actually learned from care delivery data.



That distinction can be easy to miss because most AI marketing leads with what a tool can do rather than what it was built on. Yet a chatbot can sound confident and still be wrong, and a clinician moving quickly through a full schedule of patients might not always catch it. As organizations look to extend capacity, understanding what's actually behind vendor claims is becoming a key part of evaluating any AI tool.

Learning from both sides of care



AI tools used in physical therapy and outpatient rehab can draw on very different sources of information. Some rely heavily on published clinical literature and guidelines. Others build on general-purpose AI models, sometimes supplemented with clinical expert input. And some learn from data generated through digital care, such as exercise completion, patient-reported symptoms, and other measures of engagement and progress between visits.

It's far less common to connect those inputs across the full care journey, from what clinicians learned to how that shaped their judgment, what care they delivered, how patients engaged with that care, and what outcomes patients ultimately achieved.

Published literature can tell a model what research suggests should work across a patient population, clinical expert input can add context and relevance, and patient engagement data can show what happened between visits. **But none of those inputs by themselves captures this full loop:** A clinician learns something that shapes their judgment, applies that judgment to a specific patient, and that patient's outcomes inform what gets learned next.

Medbridge sees both sides of care, through data collected over 15 years:

How clinicians
learn:

2,900+
courses

10 million+
course completions

600+
expert instructors, providing input

How patients
recover:

15 million+
care episodes

90 million+
assigned care programs

Extensive outcomes data
reported directly by patients

Because education and care inform each other, our AI connects the dots between them to see the big picture by learning what training helps clinicians better treat patients, and which care approaches improve outcomes. This is the difference between a tool that knows about physical therapy and one that has learned from how it's actually practiced and experienced from both sides over the years.

Why this is hard to replicate

Organizations can pay to access existing AI models or hire a team of machine learning experts to build one without too much trouble. But three things make Medbridge training data difficult to reproduce:



Provenance

Generated through real care delivery, not scraped or licensed



Connected signals

Visibility into both clinician learning and patient outcomes



Longitudinal depth

Years of interactions connected across the full care journey

What this means in practice

When healthcare AI learns from years of real care delivery data, the benefits extend across organizations, clinicians, and patients.



For organizations

More accurate insights and benchmarking, grounded in the real relationship between education and outcomes



For clinicians

Recommendations informed by what has actually changed outcomes in practice rather than by general clinical knowledge

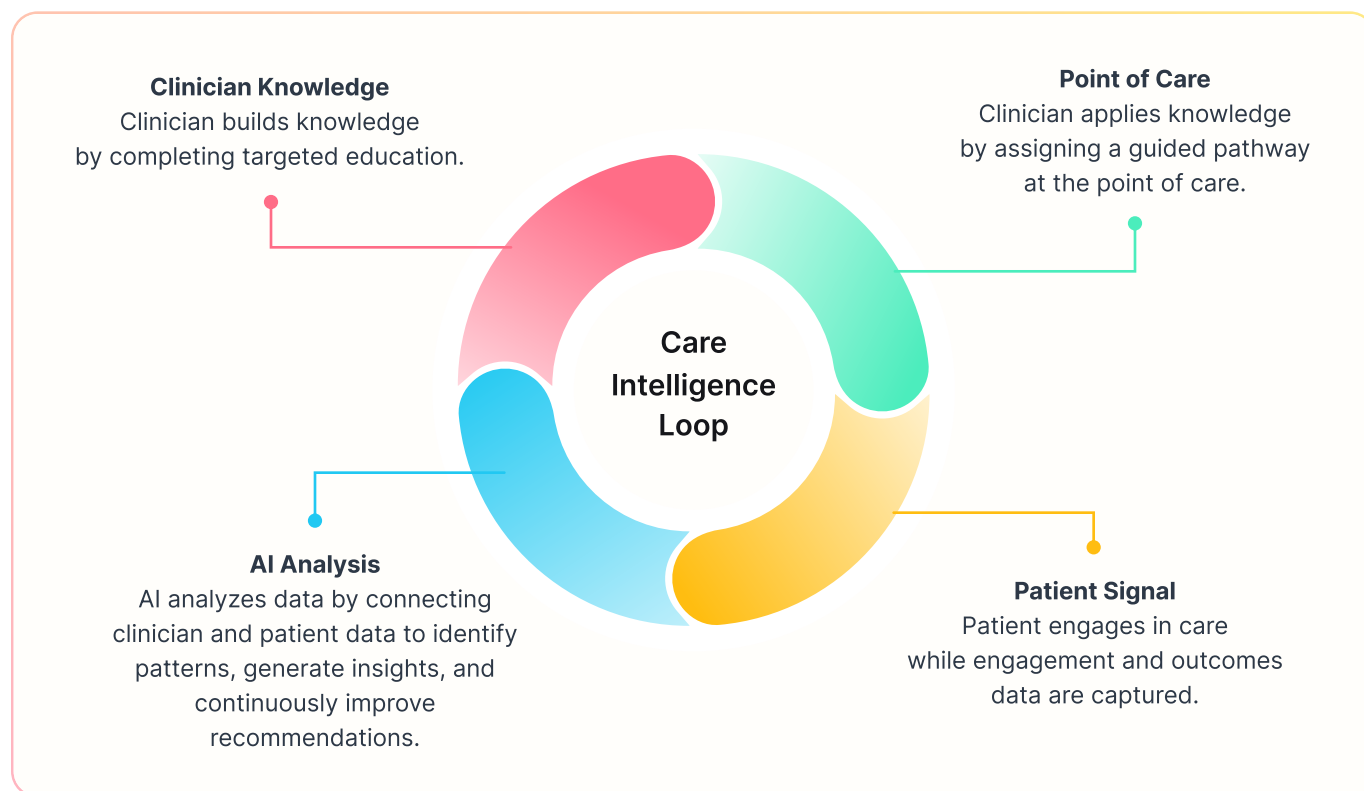


For patients

Care pathways shaped by patterns learned across millions of real recoveries, so care gets more personalized over time

The care intelligence flywheel

Medbridge connects both hemispheres of care. By understanding both **how clinicians learn** and **how patients engage and recover**, we create a stronger foundation for AI-powered insights.



Built to fit the way care teams work



Whether you're already using Medbridge or considering it, the AI capabilities described in this white paper are built into the same platform as the tools that care teams use every day.

For teams already on Medbridge, AI tools fit into existing workflows. Patient summaries draw on information from HEP and Pathways to help clinicians prepare for visits within the tools they already use, and an upcoming capability will provide exercise recommendations as clinicians review a patient's progress. Because these capabilities are integrated into the platform, teams can use them without learning a separate system or adding another login to their day.

Teams evaluating a new platform might be considering a broader question: What does it take to introduce AI into existing workflows? One option is to add one or more standalone AI tools to the systems already in place, but each of these likely comes with its own login, training, maintenance, and workflow, and may offer limited integration with other tools the organization uses.

Moving to a new platform requires planning and change management. Organizations that move to Medbridge often do so in phases, starting with higher-priority solutions and expanding into other capabilities once the core platform is widely adopted into daily workflows. Because those capabilities are all integrated into Medbridge, they can be introduced within the same platform rather than through a separate rollout of different integrations, avoiding the problem of multiple tools with different requirements. The tradeoff is therefore different from adding standalone AI tools to existing solutions. Each standalone tool becomes another system to manage over time. A platform transition requires more change up front, but it can consolidate workflows within a shared system.

WHEN HIRING ALONE ISN'T ENOUGH

Healthcare leaders are facing a capacity challenge that hiring alone might not be able to solve. In its [2025 Health Care Workforce Scan](#), the American Hospital Association notes that workforce shortages remain one of the most significant challenges facing healthcare organizations, driving leaders to explore new ways to extend capacity while supporting clinicians.

Purpose-built AI in action



At Medbridge, “**purpose-built AI**” means that each of the tools listed below reflects the same concept: AI that's grounded in connected clinician and patient data, while fitting seamlessly into clinical workflows.



Coach Adam

Coach Adam uses conversational AI to help patients get started with digital care programs and guided pathways. By simplifying onboarding and helping patients understand what to expect, Coach Adam supports engagement from the beginning of the care journey.



AI Summary

AI Summary helps clinicians quickly understand a patient's status without manually reviewing information across multiple screens. It provides a concise overview of patient progress, engagement, and outcomes to help clinicians get up to speed in seconds instead of minutes.



AI-Assisted Messaging

Patient communication can create significant cognitive load throughout the day. AI-Assisted Messaging helps clinicians draft responses based on patient activity, symptoms, adherence, and recent communication. Every message remains under clinician review and control before it is sent.



Clinical AI Assistant

The Clinical AI Assistant helps clinicians quickly understand what's happening with a patient and identify potential next steps in care. Combining patient summaries, pathway recommendations, and relevant clinical insights directly in existing care workflows helps reduce the time spent gathering and synthesizing information while keeping clinical decision-making firmly in the hands of the clinician.



Semantic Search

Semantic search helps clinicians find relevant courses, exercises, and clinical resources using intent-based search rather than exact keywords, reducing the time spent locating the right content.



Natural-Language Analytics

Natural-language analytics allows healthcare leaders to explore utilization, engagement, and outcomes data through conversational queries. This makes it easier to identify trends and opportunities without requiring complex reporting workflows.



AI-Informed Exercise Recommendations

COMING SOON

Medbridge is developing AI-informed exercise recommendations that help surface evidence-based exercise options based on patient diagnosis, progress, outcomes, and engagement data. Clinicians remain responsible for final exercise selection and care decisions.

Looking toward predictive care

These capabilities are part of a broader vision for predictive care that uses trusted data, clinician expertise, and AI to reveal meaningful insights earlier, personalize care more effectively, and improve outcomes at scale.

Building AI responsibly



Essential guardrails

Guardrails make AI practical to use in a clinical setting and are part of our design from the very beginning. This breaks down into four commitments:



Scope guardrails

AI operates within defined workflows, not as an open-ended “ask anything” tool



Content guardrails

Recommendations come from a vetted, clinically reviewed library, always traceable to a known source



Human oversight

No diagnosis, no unreviewed patient messages, and no care plan changes without clinician approval



Confidence safeguards

When a recommendation comes with uncertainty, that uncertainty is revealed explicitly

These guardrails reflect an intentional philosophy about where AI fits. AI is good at retrieval, ranking, and drafting, allowing it to pull together information, surface options, and produce a first draft.

It's not a substitute for judgment, accountability, and the patient relationship.

Diagnosis, clinical reasoning on a specific case, final care plan decisions, and when to deviate from a recommended pathway all stay with the clinician.

47%

of physicians say increased oversight is the top regulatory action needed to increase trust in healthcare AI.¹

Transparency: understanding the why behind a recommendation

Guardrails determine what an AI tool can and can't do, while transparency determines whether anyone can actually see what it did and why. For Medbridge, transparency means being clear about:

- Where AI is being used
- What data informs a given recommendation
- Why a recommendation is being made
- What decisions remain in human hands

Different audiences need different views into that same information.



Clinicians

See the factors, alternatives, and confidence level behind a recommendation.



Patients

Get clarity in plain language about when and how AI is part of their care.



Organizations

See how tools are being adopted and what impact they're having.

Transparency makes AI easier to evaluate and use responsibly. Clinicians can understand what's behind a recommendation, patients can understand how AI is involved in their care, and organizations can see how these tools are being used and whether they're delivering value.

CONCLUSION

Healthcare doesn't need more AI for the sake of AI.

It needs AI that's actually learned from healthcare, from how clinicians decide and how patients recover.

That's what sets Medbridge apart: AI built on connected clinician and patient data, delivered inside the workflows care teams already use, with guardrails and transparency built in from the start rather than added later. This can help organizations:

- Encourage clinician adoption
- Reduce clinician burden
- Save time
- Strengthen patient engagement
- Improve patient outcomes

These are the outcomes healthcare organizations increasingly expect from AI, and they're what Medbridge's AI capabilities are built to deliver.

See what's possible with Medbridge One Care

Our all-in-one solution puts clinicians in the driver's seat with AI-powered tools that help them deliver the right level of care at the right time.

[Request a demo](#)

REFERENCES

1. <https://www.healthcareitnews.com/news/ama-survey-more-doctors-using-lukewarm-trusting-ai>