# From scan to strategy:

## How deep clinical AI is redefining hemorrhagic stroke pathways


### Executive Summary

Artificial intelligence (AI) is redefining the landscape of stroke care. While ischemic stroke solutions have garnered the lion's share of attention, hemorrhagic stroke presents a uniquely complex challenge, fast-moving, high-stakes, and historically underserved by technology. As AI continues to reshape clinical care, a new class of AI-driven hemorrhagic solutions has emerged: purpose-built, deeply integrated tools that can triage bleeds, guide decisions, and unify teams across networks.

Among these, RapidAI offers a particularly comprehensive platform approach. With advanced image analysis and real-time insights, its hemorrhagic suite delivers actionable intelligence that improves patient flow, enhances care equity, and supports both clinical and financial outcomes.

This paper explores the differentiated value of a hemorrhagic AI platform through the lens of real-world clinical leaders who have deployed RapidAI to transform how they manage brain bleeds.


## Clarity that drives action, from the first scan

In hemorrhagic stroke, time isn't just brain; it's clarity, coordination, and confidence. RapidAI shortens the time between imaging and action by delivering high-fidelity, clinically relevant insights to the entire care team within minutes. Rather than relying solely on the radiology report to initiate downstream decisions, RapidAI surfaces suspected findings early, helping reduce bottlenecks and enabling faster alignment among specialists.

This proactive approach keeps ED, ICU, and neurosurgery teams informed in parallel, improving coordination while still preserving the essential role of radiology in diagnosis and interpretation.

When that level of coordination is paired with trusted AI spanning all intracranial hemorrhage types, along with suspected midline shift and hyperdense volume measurement down to 1 mL, clinicians see a noticeable impact on speed and decision-making.

> **"As soon as the patient is out of the scanner, I've already received a hyperdense notification and can start planning my night. That extra 30 minutes changes everything"**
>
> **—Adam Khan, MD**
> Endovascular Neurosurgeon,
> Corewell Health Dearborn

**Key differentiators:**

- Instant AI-driven analysis enables faster surgical decision-making and proactive patient management.
- Volume outputs and region identification support selection for minimally invasive hematoma evacuation, including criteria for trials like the landmark ENRICH trial.

## Smarter transfers and better use of resources

Unnecessary transfers are costly for hospitals, patients, and families. Each move consumes ICU resources, introduces delays, and adds stress. By providing precise, trusted insights up front, RapidAI empowers clinicians to make high-stakes transfer decisions with greater certainty.

> ***[RapidAI] helps me keep patients where they belong. I don't want to transfer someone just to watch them for 24 hours."***
>
> – Abhishek Singh, MBBS
> Vascular & Interventional Neurologist, Director of Comprehensive Stroke Program, CHI Nebraska

**Proof points:**

- Fewer unnecessary transfers reduce ICU crowding and improve the patient-family experience.
- Appropriate escalation of complex cases ensures specialized resources are directed to the right patients.
- Greater confidence in local care decisions minimizes cost and enhances care continuity.

## Higher detection, shorter stays

With support from RapidAI, clinicians are detecting and managing bleeds more effectively, leading to improved patient selection and more efficient use of hospital resources.

**Proof points:**

- **Increased ICH patient identification:** At CHI Nebraska, the number of ICH patients identified rose from 35 in 2021 to 96 in 2024, representing a steady increase in the identification of hemorrhage patients.[1]
- **Reduced ICH length of stay (LOS):** At the same site over the same period, LOS days went from 10 to 4.6.[1] Corewell Health's Dearborn campus also reported a reduction in average LOS from 14.2 days to 12.9 days following RapidAI adoption. (36 mo of data)

[1] Jani et al, Eur Stroke J. 2024 May 15;9 (1 Suppl):643–647. No 2270/P1079

> **"When you zoom out, you realize this isn't just about one patient, it's about the entire system operating smarter. We're identifying more cases, treating them sooner, and using our beds more wisely. That's better for outcomes and better for hospitals."**
>
> **—Deepak Nair, MD**
> Vice President, Neuroscience Service Line, Neurointensivist, Vascular Neurologist, OSF Healthcare

## Standardized documentation = stronger stroke programs

Stroke program leaders have credited RapidAI's automated hyperdense volume calculations with elevating their institutions to Comprehensive Stroke Center (CSC) status by improving compliance with ICH score documentation and imaging protocols.

> ***Before Rapid, documenting ICH volume was inconsistent, and compliance was challenging. Now, with automated measurements, even our ER and ICU teams can confidently include ICH scores. It transformed our stroke program and helped us reach CSC certification."***
>
> – Abhishek Singh, MBBS
> Vascular & Interventional Neurologist, Director of Comprehensive Stroke Program, CHI Nebraska

**Proof points:**

- Automating the ICH volume calculation streamlines a process that's traditionally manual, inconsistent, and frequently deprioritized in busy clinical environments.
- Reduces variation in ICH scoring between sites, which supports clinical decision-making and improves systemwide alignment.

## A financial case for an AI-driven hemorrhagic program

It's not just about covering the cost of technology; it's about fueling the growth of a high-performing, financially sustainable service line. An AI-driven hemorrhagic stroke program supports more innovative resource use, earlier interventions, and more confident decision-making systemwide.

By improving ICH detection, automating volume measurement, and streamlining documentation, AI helps reduce unnecessary transfers, shorten hospital stays, and capture appropriate reimbursement, benefiting both patient care and the bottom line.

> **"We're mission-driven, yet we often say 'No money, no mission'. RapidAI helps us identify more patients amenable to intervention, which supports both our clinical and financial goals."**
>
> **—Deepak Nair, MD**
> Vice President, Neuroscience Service Line, Neurointensivist, Vascular Neurologist, OSF Healthcare

**Proof points:**

- $500 average reimbursement confirmed at Corewell for outpatient non-contrast CT scans using Rapid Hyperdensity, when no follow-up imaging was performed.
- In systems with 20,000+ stroke-related scans annually, even modest reimbursement per scan can translate into meaningful revenue, supporting technology investment, stroke program expansion, and care continuity.
- The figures above don't account for additional gains from avoided transfers, reduced length of stay, or downstream procedure revenue tied to earlier and more accurate ICH detection.

## Conclusion: From overlooked to optimized

Hemorrhagic stroke has long lived in the shadow of ischemic innovation. That's changing. With a deep clinical AI platform, hospitals now have the tools to treat brain injuries with greater clarity, confidence, and coordination—at the bedside and across the health system. The organizations leading the way aren't just adopting technology; they're setting a new benchmark for what hemorrhagic stroke care can and should be.