



Organization Overview

Hospital for Special Surgery (HSS) is the world's leading academic medical center focused on musculoskeletal health. HSS combines clinical care, research, education, and digital innovation to improve patient outcomes at scale.

HSS has made targeted investments in healthcare AI, advanced analytics, and digital transformation to support clinical excellence, operational efficiency, and patient engagement. Our work integrates secure cloud infrastructure, enterprise data platforms, predictive analytics, and AI-enabled workflows into real-world clinical environments.

Current examples of focus include:

- Machine learning models
- Predictive analytics for outcomes, complications, and utilization
- Natural language processing to extract structured insights from clinical documentation
- AI-assisted operational workflows to reduce administrative burden
- Data-driven quality improvement and performance monitoring
- Secure cloud architecture aligned with HIPAA and healthcare cybersecurity standards

HSS approaches AI as applied innovation. Solutions are designed for real clinical workflows, validated with physicians and care teams, and governed through structured compliance, privacy, and model oversight processes.

Integrated Response to RFI

HSS appreciates the opportunity to provide input regarding the development, evaluation, and adoption of artificial intelligence (AI) in clinical care. Based on operational experience in healthcare delivery and digital innovation, we offer the following consolidated observations and recommendations.

1. **Data Readiness and Interoperability:** Data fragmentation and inconsistency remain primary barriers to innovation. Healthcare organizations face challenges identifying necessary data elements, understanding where information resides across systems, distinguishing structured from unstructured data, and accessing complete datasets for training and validation. Greater alignment in data standards, continued focus on interoperability, and access to shared benchmarking datasets would significantly accelerate responsible AI development and scalability.
2. **Liability and Accountability Clarity:** Uncertainty regarding responsibility when AI-informed insights influence clinical decisions slows adoption. Clearer guidance on accountability among health systems, clinicians, start-ups, and institutions would reduce risk aversion. Limited safe harbor or risk-sharing models could support responsible pilot programs.
3. **Evidence-Based Validation and Oversight:** AI tools should be evaluated using evidence-based methods similar to other clinical interventions, including performance testing, bias assessment,

and workflow evaluation. Post-deployment monitoring should focus on real-world outcomes and model drift. Streamlined, risk-based oversight pathways for non-device AI tools would better align regulation with innovation.

4. **Human-Centered AI:** Trust is essential. AI must integrate into clinical workflows, reduce burden, and demonstrate measurable improvements in outcomes and efficiency. Adoption is influenced by clinical leadership, IT governance, and reimbursement alignment.
5. **Patient Considerations:** Patients support AI that improves accuracy, timeliness, and personalization of care but express concerns about transparency, privacy, and reduced human interaction. Strong safeguards and clear communication are critical.
6. **Incentives and Federal Support:** Payment models should reward validated AI that improves quality and reduces cost. Federal investment in data standards, bias mitigation research, real-world evidence generation, and evaluation frameworks would meaningfully accelerate responsible adoption.

Interest and Next Steps

AI holds significant potential to improve clinical quality, operational efficiency, and patient outcomes. Addressing data fragmentation, clarifying liability structures, modernizing evaluation pathways, aligning reimbursement incentives, and strengthening interoperability will be essential to responsible and scalable adoption.

We appreciate the opportunity to provide input and welcome further engagement to support the advancement of safe, effective, and innovative AI use in clinical care.