The End of the Data Hunt*:* Empowering Insight Driven-Action with iTransplant® AI Chart Analysis

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Background:
Comprehensive donor medical charts are often lengthy, fragmented, and complex, requiring significant staff time to "hunt" for data during evaluation workflows that are highly time sensitive. These manual processes contribute to cognitive burden and can delay critical decision-making. To address this challenge, **iTransplant® AI Chart Analysis** was developed as a GenAI-powered tool to modernize chart reviews by embedding intelligence directly into the donation EMR. This solution allows staff to stop hunting for data and instead prioritize acting on structured, review ready eligibility summaries and insights.

Methods:
The **iTransplant® AI Chart Analysis** solution is seamlessly integrated directly into daily clinical operations, ensuring that intelligence is a core component of the workflow. The system securely analyzes donor case data and medical records in seconds, evaluating them against configurable criteria, including (but not limited to):

- Industry and Regulatory Guidelines: Ensuring compliance with national standards
- Processor Eligibility Requirements: Tailoring evaluation logic to specific tissue partner needs
- Organization-Specific SOPs: Aligning analysis with local clinical and quality standards

Following InVita's AI Core Principles of safety, rigor, and transparency, the model operates within a secure, validated environment that is fully contained within iTransplant.

Results:
Early implementations of **iTransplant® AI Chart Analysis** transform the staff experience by shifting focus from data retrieval to clinical action:

- Efficiency: Reviews of large records are completed in seconds, potentially saving hundreds of staff hours monthly.
- Consistency: Improved identification of key clinical indicators, contraindications, and possible eligibility outcomes.
- Enablement: High usability and workflow adoption due to integration within existing referral and case management processes

Quantitative performance metrics and time-savings data will be presented from a participating birth tissue organization pilot deployment focused on eligibility recommendations.

Conclusion:
Modernizing donor evaluation requires a fundamental shift in how staff interact with medical records. By automating the "data hunt" and providing actionable insights, **iTransplant® AI Chart Analysis** reduces administrative burden and empowers staff to focus on insight-driven clinical decision-making. As the community pursues greater efficiency and tissue utilization, purpose-built AI tools integrated directly into core platforms serve as a foundational capability for the next generation of donation and transplant operations.

Keywords: AI, Innovation, Eligibility

Disclosures: Aditi Srinivasan and Andrew Kaufman are both employees of InVita Healthcare Technologies, Inc.

The End of the Data Hunt: Empowering Insight-Driven Action with iTransplant® AI Chart Analysis

THE CHALLENGE

The Data Hunt. Donor medical charts are lengthy, fragmented, and complex — routinely hundreds of pages pulled from multiple hospital systems, referral forms, lab feeds, and scanned attachments, becoming a set of disparate data sources that are not provided from the perspective of donor eligibility. Before a determination can be made, staff must first find the relevant facts: reconciling labs, tracing medications to diagnoses, and piecing together history from narrative notes. This "data hunt" happens under acute time pressure, adds cognitive burden, delays time-sensitive decisions, and makes consistent application of criteria difficult across reviewers.

Study Population / Scope: Development and testing performed using de-identified donor charts and eligibility criteria documents contributed by a participating birth tissue donation organization and a participating cadaveric donation organization; broader multi-partner pilot validation is planned for Q4 2026.

THE SOLUTION

iTransplant® AI Chart Analysis embeds AI directly into the donation EMR, analyzing charted data within iTransplant and uploaded medical record attachments against a selected eligibility criteria document to generate a decision-ready Eligibility Screening Report in seconds. The report provides an at-a-glance Tissue eligibility assessment, donor snapshot, and flag summary, followed by every Contraindication, Discrepancy, Needs Review, and Missing item — each linked to the applicable criteria, source document, page reference, and recommended action. Detailed findings are organized by category, with every item identified as Normal or Flagged.

Model Development: The AI model was configured using AATB and FDA published eligibility requirements. During development, model outputs were iteratively tested against sample de-identified donor charts to assess accuracy and completeness; known technical limitations were identified, including reduced accuracy on handwritten notes and scanned attachments. To mitigate this, the model was trained to flag content it cannot confidently interpret as Needs Review rather than omit or guess; a dedicated pre-processing step to further improve handling of these cases is planned. As the platform vendor, InVita has not yet conducted a structured validation study against reviewer determinations at production scale — that comparison is planned as part of the initial pilot deployment with participating donation organizations.

Human-in-the-loop by design: iTransplant® AI Chart Analysis never makes an eligibility determination. Every output is a recommendation with linked source evidence; a qualified reviewer confirms or overrides each flagged item before any donor disposition decision is made. AI Chart Analysis is advisory only.

Projected Time Returned

~3,672

hours / year

MODELED: ~3,672 hrs/year = (~917 projected 2026 donor cases/month) × (~20 min average manual chart review time/case, per InVita processing benchmarks) × 12 months. Figure is a projection for a high-volume, multi-tissue-type OPO based on documented case volumes and manual-review-time benchmarks; quantitative outcome data will be collected and published as pilot deployments progress. Case volume and review-time assumptions documented in InVita's Donor Eligibility AI cost model (Feb 2025).

Contained in iTransplant



Zero data ever leaves. Processing stays inside your trusted, authorized EMR.

Anticipated Benefits

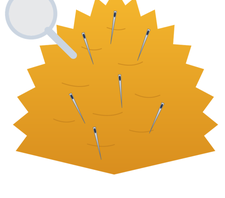
- ✓ Streamlines chart reviews
- ✓ Reduces manual effort, saves time and cost
- ✓ Supports compliance
- ✓ Enhances consistency
- ✓ Empowers staff
- ✓ Secure and integrated

System Compliance

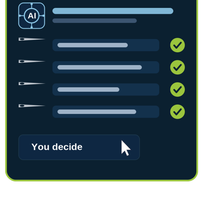
AI Chart Analysis is validated for compliance with 21 CFR Part 11 and Part 1271, ensuring outputs are generated and retained securely and auditably within InVita's controlled donation EMR environment.

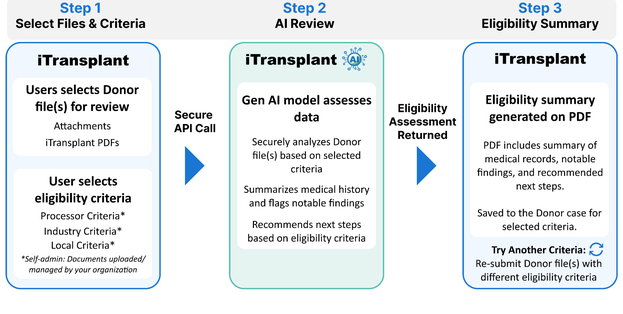
Find the Needle in the Haystack

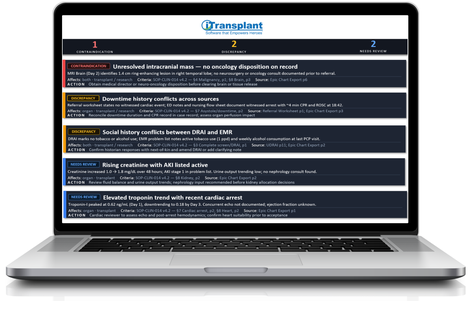
BEFORE · Manual review



AFTER · With AI Chart Analysis







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