CASE STUDY

AI-Powered Scientific Data Curation & Knowledge Management for IBD Therapeutics Research

How a Clinical-Stage Biotechnology Company Accelerated Literature Review, Data Curation, and Downstream Research Through Agentic AI

OptraHealth
Engineering Digital Healthcare

CASE STUDY BIOTECH AI IBD / CROHN'S DISEASE

Clinical-Stage Biotechnology Company Accelerates Scientific Knowledge Management for IBD Research

How a clinical-stage biotechnology company focused on Crohn's disease and inflammatory bowel disease operationalized agentic AI to scale literature review, biomarker curation, and evidence discovery.

Client & Therapeutic Area

Clinical-Stage Biotechnology Company (Focused on Crohn's Disease & Inflammatory Bowel Disease)

Therapeutic Area: Inflammatory Bowel Disease (IBD) / Crohn's Disease

The Challenge

The client was advancing multiple therapeutic programs while managing growing volumes of scientific literature, biomarker data, genomic information, and experimental findings. Scientific teams spent significant time manually reviewing publications, extracting findings, normalizing data, and validating information. As data volumes increased, manual processes became difficult to scale, creating delays and limiting focus on higher-value activities.

The OptraHEALTH Approach

OptraHEALTH deployed a consulting-led AI solution leveraging Agentic AI and a biomedical knowledge management framework. The solution combined automated scientific data extraction, normalization, validation, and knowledge organization across literature, databases, and internal sources.

Automated Extraction

Extracted scientific findings from literature and biomedical databases.

Normalization & Validation

Harmonized data across sources with validation and quality review workflows.

Knowledge Organization

Created AI-ready datasets, a centralized searchable repository, and agentic workflows for evidence discovery.

Capabilities

- Automated extraction of scientific findings from literature and biomedical databases
- Data normalization and harmonization across multiple sources
- Validation and quality review workflows
- Creation of AI-ready datasets for biomarker and therapeutic research
- Centralized searchable knowledge repository
- Agentic AI workflows supporting evidence discovery

The Foundation

Leveraged OptraHEALTH's biomedical knowledge infrastructure:

- 65+ million ontology concepts
- 2+ million curated biomedical Q&A pairs
- Integrated scientific literature and biomedical informatics resources
- Pre-configured normalization and validation workflows

Results

Reduced Manual Effort

Significant reduction in manual literature review effort

Faster Turnaround

Faster turnaround from raw data to analysis-ready datasets

Higher Quality

Improved consistency and quality of curated research data

Greater Productivity

Increased productivity across scientific and data management teams

Accelerated Evidence Access

Accelerated access to relevant evidence

Centralized Knowledge

Centralized, searchable knowledge resource for future research

Why OptraHEALTH

Unlike point solutions, OptraHEALTH combines scientific data extraction, normalization, validation, curation, and knowledge management into a single configurable framework. Our approach enables biotech and pharma organizations to operationalize AI while maintaining scientific accuracy, traceability, and regulatory readiness.

Built for Your Requirements

Every implementation is tailored to therapeutic area, data sources, workflows, and business objectives. HIPAA, SOC 2, and GDPR aligned.

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