



# ARTICLE

## EVIDENCE-AS-A-SERVICE: COMPRESSING THE SYNTHESIS TIMELINE THROUGH AI INTEGRATION

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The primary bottleneck in the clinical translation process is the resource-intensive nature of traditional systematic reviews. These reviews, which form the definitive basis for medical textbooks and clinical guidelines, typically require years to complete. This delay ensures that by the time evidence is formally synthesized and reaches the point of care, the underlying data may already be outdated. This linear, non-collaborative workflow is a fundamental driver of the 17-year evidence-to-practice gap.

## THE CHALLENGES OF MANUAL SYNTHESIS

Manual literature screening and data extraction are limited by human capacity and are prone to significant sensitivity gaps. The volume of biomedical research is now so vast that updating even a small subset of clinical reviews can involve screening hundreds of thousands of citations.

- **Temporal Lag:** The average duration to move from a publication to its inclusion in a systematic review or textbook is 6.3 years.
- **Human Error:** Human reviewers typically achieve approximately 82% sensitivity in literature screening, leaving a 18% margin for missed evidence.
- **Resource Exhaustion:** Systematic reviews are often delayed or left un-updated due to the extreme resource intensity required for manual synthesis.

## THE CIRCLE DATASET INTERVENTION: STRUCTURED AI ORCHESTRATION

A primary feature of **Circle Datasets** is the production of **structured, standardized outputs** specifically designed for seamless integration into AI-assisted evidence synthesis. By utilizing protocol-driven, deterministic data rather than unstructured electronic health record (EHR) scrapes, the platform provides the high-quality foundation necessary for Large Language Models (LLMs) to perform synthesis without the risk of hallucination.

This integration enables the technical reality of **Evidence-as-a-Service**:

- **Synthesis Velocity:** LLM-based approaches, such as the "otto-SR" system, have demonstrated the ability to update 12 Cochrane reviews—analyzing 146,276 citations—in under 48 hours.
- **Superior Precision:** Automated systems have demonstrated a 97% sensitivity in literature screening, exceeding human performance by 15%.
- **Point-of-Care Delivery:** Because Circle Datasets are built on interoperable mappings (such as FHIR and USCDI), the synthesized evidence can be delivered as context-aware updates directly into the EHR at the point of care.

This architectural shift transforms clinical evidence from a static, retrospective document into a dynamic infrastructure that continuously updates the medical knowledge base in near-real-time.

Download RegenMed white paper "[Bridging The 17 Years Evidence to Practice Gap](#)" to go deeper.

## GET INVOLVED OR LEARN MORE – CONTACT US TODAY!

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