Literature Validation Mode

Clinical Reference Architecture — AI-Powered Cross-Correlation Pipeline

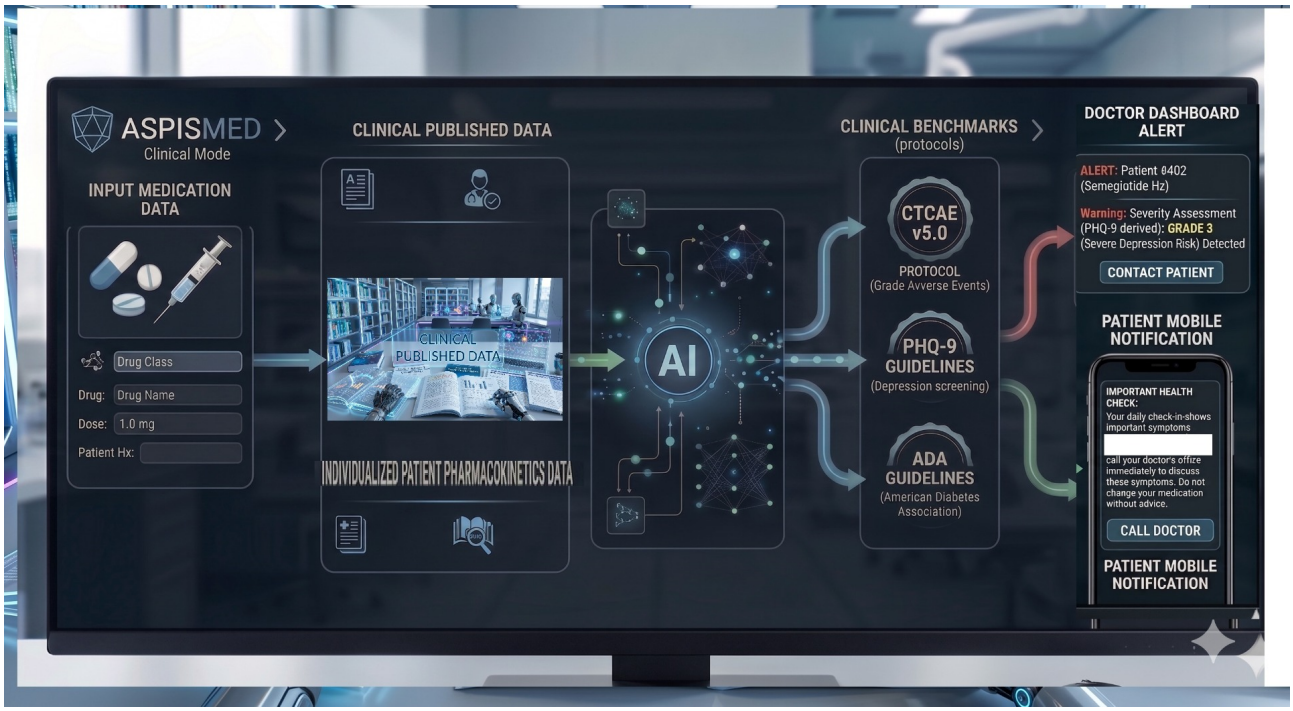

Figure 1 — ASPISMED Literature Validation Mode: pipeline from medication input through AI-driven cross-correlation of published clinical data and individualized pharmacokinetics to standardized clinical benchmarks (CTCAE v5.0, PHQ-9, ADA Guidelines) and real-time patient mobile notifications.

Functional & Technical Specifications

Literature Validation Mode — Clinical Reference Architecture

Overview & Differentiation

The primary differentiator of this model compared to the Discovery Mode is its deliberate constraint to existing peer-reviewed literature data; it is not architected to identify entirely novel or clinically unmapped adverse events. Its core value lies in its advanced computational ability to cross-correlate medical treatments, clinical profiles, and drug-drug interactions. By optimizing these patient vectors, it effectively reduces healthcare and hospitalization costs while systematically validating medical literature through the aggregation of real-world clinical datasets (Real-World Data — RWD).

This functional block operates seamlessly across three operational levels:

LEVEL 1: CLINICAL — PUBLISHED STUDIES

This baseline data tier integrates all established clinical data regarding drug-to-drug interactions and documented adverse event frequencies. Patient-specific personalization parameters are concurrently mapped into the evaluation matrix, dynamically accounting for pre-existing medical conditions, patient history, and multi-drug regimens (polypharmacy).

LEVEL 2: COMPUTATIONAL

Following data ingestion from Level 1, the core ASPISMED algorithm cross-references the patient clinical profile against the unified medical literature database to map, flag, and prioritize critical clinical risk points where anomalies are mathematically expected to occur:

a. Target Event Prediction: Anticipates a severe adverse event, critical interaction, or contraindication based explicitly on the patient's real-time clinical status and medical baseline.

LEVEL 3: EXECUTIVE

The operational layer bridges clinical prediction with preventative patient care through three structured steps:

Step One: Clinician Parameterization & Profiling

The clinician parameterizes the target treatment regimen directly within the interface, explicitly profiling pre-existing comorbidities and all concurrent active medications. The system runs an automated diagnostic scan across the dataset, presenting immediate medical insights into potential adverse side effects or induced physiological changes. In the event that severe risk thresholds or critical signals are breached, the platform prompts the clinician to deploy the monitoring mobile application directly to the patient.

Step Two: App Deployment & Personalized Alerts

The patient installs the specialized medical application on their mobile device. Upon verification, ASPISMED dynamically instantiates a personalized alert schedule and threshold matrix configured precisely to validated, international adverse event tracking frameworks (such as the Common Terminology Criteria for Adverse Events — CTCAE).

Step Three: Closed-Loop Monitoring & Triage Alerts

If real-time patient telemetry and tracking feedback indicate that a critical or severe adverse event has occurred — characterised by an elevated statistical probability of clinical hospitalization — the patient receives an immediate push notification instructing them to contact their physician. Simultaneously, a high-priority, real-time alert is triggered on the clinician's central dashboard, enabling immediate patient triage.