Problem Statement 6: AI-Based Chronic Disease Monitoring Assistant

The Challenge

Patients with chronic conditions such as diabetes, hypertension, and asthma generate daily health data through self-monitoring devices and logs. Healthcare professionals cannot continuously analyze this growing volume of patient-generated data due to time and resource constraints. As a result, early warning signs of health deterioration may be missed, leading to delayed interventions and increased risk of complications. There is a need for an intelligent assistive system that can continuously analyze health logs and support proactive chronic disease management.

Health Data Analysis Agent

An agent that ingests daily patient health data such as blood glucose levels, blood pressure readings, peak flow values, and medication adherence logs, and organizes them into meaningful health trends.

Risk Trend Detection Agent

An agent that analyzes short-term and long-term health trends to identify abnormal patterns or potential deterioration using clinical thresholds and historical data.

Alert & Lifestyle Recommendation Assistant

An agent that generates early warning alerts and provides lifestyle and care recommendations aligned with clinical best practices
 (assistive only, non-diagnostic).

Outcome

Provides early risk awareness and personalized lifestyle guidance, enabling timely intervention and improved chronic disease management.

Mandatory Tech Stack

LangFlow using IBM Granite Model
 (Using RAG on chronic disease management guidelines, clinical thresholds, and trusted healthcare references.)