

Problem Statement:

Many patients in multilingual countries like India face challenges in understanding medical instructions due to language barriers, hindering their ability to follow them effectively. High patient volumes restrict doctors' consultation time, leaving patients unclear about their diagnoses, medications, or follow-up steps, with doubts arising after consultations when clarification is unavailable. The absence of a centralized patient history system makes it difficult for patients to access their health records and previous treatments, forcing them to repeatedly provide medical details when visiting new healthcare providers. This lack of continuity increases the risk of medical errors and leads to unnecessary follow-up visits. A smart, multilingual assistant is essential to help patients overcome these issues effectively.

Target Audience & Context:

The primary users of this solution are patients from rural, semi-urban, and multilingual regions where English or regional medical terminology is not easily understood. These individuals often have limited access to digital healthcare assistance and struggle with medical communication during and after consultations. Healthcare providers in these areas face high patient volumes, limiting their ability to clearly explain treatment plans and medications. This gap particularly affects elderly and less-educated patients, as well as those visiting new healthcare centres without prior records. Addressing these problems requires a solution that bridges language, continuity, and communication gaps in a patient-friendly manner.

Use of Gen-AI:

Our solution integrates Large Language Models (LLMs), Model Context Protocol (MCP), and Agentic AI to provide intelligent, multilingual, and personalized healthcare support—especially after consultations. LLMs are used to understand natural language inputs like “I feel dizzy after meals” and generate simplified, medically relevant explanations. However, for these responses to be safe and personalized, the model must be aware of the patient’s medical background. This is achieved through the MCP, which stores structured patient data in a format such as: {age: 58, conditions: [diabetes], medications: [Metformin], allergies: [Sulfa], preferred language: "Tamil"}. With this context, the system responds: “You may be experiencing low blood sugar. Avoid skipping meals and consult your doctor.” Agentic AI autonomously retrieves the MCP, feeds it into the LLM, and ensures the response is delivered in the patient’s preferred language.

