AI Assistant for Healthcare Provider Search and Verification

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The Problem

Finding an in-network healthcare provider with available slots is difficult for patients. In 2019, over 15% of insured adults struggled to find a provider, primarily due to doctors "not taking new patients" or "not accepting their insurance" [1]. The consequences are:

- **Outdated Information:** Many health plan directories and provider websites have outdated or incomplete info. Patients in interviews reported that insurance directories often had out-of-date listings, and provider sites didn't clearly state current insurance acceptance or new-patient status. As a result, people waste hours calling offices to confirm basic details. Some consumers had to make up to 20 phone calls to find a doctor who could see them, and still faced wait times of months (or even a year) for an appointment with that provider. [1].
- **Inaccurate Directories ("Ghost Networks"):** Nearly 50% of provider directory listings contain errors, with incorrect addresses or status on accepting new patients [2]. A federal review found 48.7% of Medicare Advantage directories contained errors, creating "ghost networks."
- **Wasted Time and Frustration:** The manual search process—scouring online directories, making repeated calls, waiting on hold, and re-explaining insurance details—is extremely time-consuming and frustrating. Patients can spend days or weeks just trying to get a simple answer: "Can I see this doctor under my plan?" High frustration often leads to delay or avoidance of care.
- **Health Consequences of Delays:** When finding a provider takes too long, the impact goes beyond inconvenience. Delays in care can cause conditions to worsen and increase health risks. Some patients give up after fruitless searches and resort to emergency rooms or go without treatment. Even those who eventually secure an appointment often suffer consequences from deferred care – including worsening symptoms, prolonged pain, going without needed medication, and even inability to work due to untreated health issues. [1].

Overall, the current process of finding an in-network provider taking new patients is inefficient and error-prone. It wastes patients' time, causes tremendous frustration, and can lead to dangerous delays in receiving necessary healthcare.

The Solution

An AI-powered assistant for provider search and confirmation offers a streamlined solution to this problem. This digital assistant automates the process of researching providers and verifying their availability and insurance acceptance in real time. Here's how it addresses the pain points:

- **Automated, Intelligent Provider Research:** The AI assistant can instantly scan vast amounts of data through tha Tavily API – including up-to-date provider directories, clinic databases, and insurance network information – to find doctors or clinics that meet the patient's personalised requirements (specialty, location, insurance, etc.).
- **Real-Time Information Verification:** Beyond static data, the AI can perform real-time calls to a health provider to confirm the acceptance of new patients as well as health insurance. The AI is prepared to manage the back-and-forth with the doctor's office.
- **Personalized, Conversational Interface:** Patients and Health Providers interact with the assistant through a simple chat/ voice interface, describing their needs in their own words.
- **Integrated Scheduling and Next Steps:** Automates booking appointments directly, providing an end-to-end service.

Pain Point	Feature	Solution
Fragmented information	Real-time verification	Identifies top 3 best-matching providers
Specific provider needs	Personalized matching	AI-based preference matching
Manual search process	Automated search/filtering	Reduces search time significantly
Insurance coverage verification	Insurance verification	Confirms insurance compatibility
Cumbersome booking	Seamless scheduling	Automates direct appointment booking

Step-by-Step Patient Demo

Typical patient interaction:

1. **Patient Request:** *The patient opens the healthcare assistant app or website.* They type in: "I'm looking for a primary care doctor.
2. **AI Clarification:** *The AI assistant immediately understands the key points and will ask for details.* For example, it might respond: "Sure. To help you best, could you provide your name, zip code, age, health insurance plan, etc..."
3. **AI Searches and Verifies:** *Once details are confirmed (the patient provides their zip code), the AI goes to work:* "Thank you. Searching for primary care doctors in the area"
    - Additional factors impacting search ranking - reviews, ratings, volume of reviews, volume of ratings.
    - API(s) under consideration - Tavily, Perplexity Sonar, Google API.
4. **Results Provided:** *The assistant then presents the patient with options in an easy-to-read format.* For example:
    - Dr. Smith – address, phone number.
    - Dr. Anderson – address, phone number.
    - Dr. Dre – address, phone number.
5. **Real-Time Confirmation:** Given the user's feedback the assistant calls the health provider to confirm pre-requirements.
    - If providers unavailable, AI prompts re-initiating search until successful.

Social Impact Analysis

- **Stakeholder Value (Patients and Beyond):** The primary beneficiaries of the AI assistant are patients in the US, who gain easier and more equitable access to healthcare. By reducing barriers and frustrations in finding appropriate care, patients are more likely to seek timely treatment, improving their overall health outcomes. Healthcare providers benefit by receiving better-matched patients, leading to smoother operations and higher patient satisfaction. Insurers and healthcare systems gain value through cost savings by encouraging patients to stay in-network. Overall, the AI assistant improves efficiency and patient-centeredness throughout the healthcare system. Beyond the current MVP, we believe this technology can be easily transferred to other countries that face the same issues, by adapting the data sources and output communication into the relevant languages and phone codes.

- **Advantage Over Alternatives:** Current provider search tools, such as outdated insurance directories, scattered web search results, lengthy phone calls, and limited doctor reviews or booking platforms, have major limitations. The AI assistant addresses these issues by offering a comprehensive, user-friendly, and proactive solution that integrates multiple data sources into one intuitive conversational interface. This streamlined, accurate, and personalized approach enhances convenience, accessibility, and overall user experience compared to existing tools.

- **Sustainability:** For the AI assistant to achieve long-term sustainability, it should be funded by the AHIP (American Health Insurance Plans) in partnerships with the government or NGOs as a tool the insurers would give for all patients in the US to have available for their primary care. This would allow the tool to be boosted through the public and private insurer's patients to achieve a broad adoption and a seamless integration into existing healthcare systems. In the long term, adoption can be driven by user-friendly interfaces across multiple platforms (mobile, web, phone), strong transparency regarding data privacy, and positive user experiences. Integration into healthcare ecosystems—such as embedding into insurer portals—ensures continuous updates and user convenience.

References

[1] Urban Institute. (2019). Health Reform Monitoring Survey.

[2] CMS. (2018). Medicare Advantage Directory Accuracy Review.