MIT Minds & Machines Hackathon

HEALTHCARE CHALLENGE

AI HEALTH DIARY & CLINICAL NOTE ASSISTANT

Introduction to the Challenge

Modern healthcare generates an enormous amount of loosely structured data — from patient diaries and symptom logs to clinicians' voice notes. Yet much of this information is trapped in text and speech, making it hard to extract insights or save time. This challenge invites you to build AI-powered assistants that summarize, clean, and structure health-related information for both patients and clinicians.

Your first option is an AI Health Diary Summarizer — a tool that allows users to log symptoms, food, or mood via text or voice, and receive visual summaries over time. The system can track sentiment, detect trends, and gently suggest actions such as "consider rest" or "talk to a clinician."

Alternatively, you can build a Clinical Note Cleaner (from Voice) — a voice-to-text pipeline that transforms raw dictation into clean, structured clinical notes following the SOAP format (Subjective, Objective, Assessment, Plan). This saves doctors valuable time while maintaining data quality and compliance.

By combining these challenges into a single solution, you can create prototypes that enhance daily wellbeing tracking for users and documentation efficiency for professionals — two sides of the same care continuum.

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What we will provide

- 💠 Azure Credits for every team to use Azure OpenAI, Cognitive Services (Speech, Text Analytics), and Azure ML for model deployment.
- 👩‍💻 Mentorship sessions

Implementation and Technology

We encourage participants to use the following (though you may integrate any stack):

- Azure Speech-to-Text for transcribing clinical voice notes or user diary entries.
- Azure OpenAI/AI Foundry for summarization and structuring into SOAP format.
- Text Analytics for Health (Cognitive Services) for named entity recognition and medical concept extraction.

Keep privacy central: no real personal data, no PHI — use synthetic or anonymized content. Show how your design would ensure compliance if deployed in production.

Judging Criteria

Teams will be evaluated based on:

1. **Innovativeness** – Original approach or technology used.
2. **Impact / Value** – Practical usefulness.
3. **Sustainability & Feasibility –** Viability or scalability.
4. **Prototype Quality** – Functionality, UX, and robustness. (highly relevant for grand prize)
5. **Presentation** – Clarity and storytelling of your demo. (highly relevant for grand prize)

Additional Bonus Points:

- Robust privacy and security design.
- High-quality, structured SOAP notes from unstructured input.
- Effective visualization of temporal health trends.
- Strong and creative use of Azure resources.