HPH Framework: Research Project Plan

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1. Background and Rationale

Delivering safe and effective care requires information continuity across screening, diagnosis, treatment, and follow-up. Many EHR deployments remain fragmented or task-specific. The HPH Framework proposes an AI-augmented, EHR-centered system that integrates all stages of the medical encounter and supports multidisciplinary collaboration.

2. Objectives and Research Questions

Primary research question: How can an AI-augmented, EHR-centered framework improve information continuity and perceived decision support across multidisciplinary care?
Secondary questions:

1. Which design principles enable multi-phase AI integration?
2. How do clinicians perceive trust, usability, and workflow fit?

3. Conceptual Framework Overview

The encounter is modeled as five stages: screening, diagnosis, treatment planning, prescription, and follow-up. Each stage is supported by modular AI components within a unified longitudinal patient record.

4. Methodology

A mixed-methods exploratory study will combine system design and clinician evaluation using synthetic clinical vignettes. Participants will interact with a prototype and report

usability, decision support, and information flow.

5. Ethical Considerations

All cases are synthetic; no patient data are accessed. Clinicians who evaluate the prototype will provide informed consent. Ethics review will be obtained as required for studies involving health professionals.

6. Timeline

Phase 1 (Design): 3 months. Phase 2 (Prototype): 3 months. Phase 3 (Evaluation): 2 months. Phase 4 (Analysis and Writing): 2 months.

7. Expected Outcomes

A validated conceptual framework, a working prototype, and a manuscript describing design and early evaluation results.