

Specific Aims: Setting Evidence-Based Medicine on Fast Healthcare Interoperability Resources (EBMonFHIR) as the data standard for biomedical research

Goals of the Proposed Project

This application supports early-stage development of a knowledgebase, specifically a data standard and ontology that can serve as the interoperability standard for data exchange for biomedical research, to allow sharing, re-use, and integration across biomedical data repositories and knowledgebases.

This project will demonstrate the need and potential impact of the interoperability standard through pilot activities in the community producing systematic reviews of research literature and with attention to research on the definitions of frailty that predict mortality in postmenopausal women. This project will engage with the user community, continually address their needs, and advance the maturity of the standard through established standards development processes.

Specific Objectives

The specific aims are more task-oriented than research-oriented in this application because this is not hypothesis-driven research but rather a project to directly support early-stage development of a knowledgebase and user community.

Aim 1. For a systematic review of research on the frailty definitions that predict mortality in postmenopausal women, express all the data related to studies identified in the National Archive of Computerized Data on Aging (NACDA) in the EBMonFHIR data standard form.

Aim 2. Populate the data repositories of participating support systems for systematic reviewers with the data from the frailty predicting mortality systematic review.

Aim 3. Achieve a critical degree of usage of the EBMonFHIR standard among systematic reviewers.

Aim 4. Achieve maturity level 4 for the EBMonFHIR standard through the HL7 standards development process.

Aim 5. Measure the quality of evidence reported using the EBMonFHIR standard.

Aim 6. Measure the rate of scientific knowledge transfer regarding frailty assessment in postmenopausal women.

Expected Outcomes (Unique Capabilities resulting from the Specific Aims)

- 1) An interoperability standard that can be used for machine-interpretable representation of biomedical research data and results
- 2) Demonstration of feasibility, functionality, usability, user acceptance, and scalability of the interoperability standard
- 3) Established and growing user community of systematic review teams and support systems that communicate more efficiently using the standard
- 4) Acceleration of translating evidence to guidance for practice for the assessment of frailty in postmenopausal women