Creating a Framework for Large Language Models for Caregiver Support in Dementia

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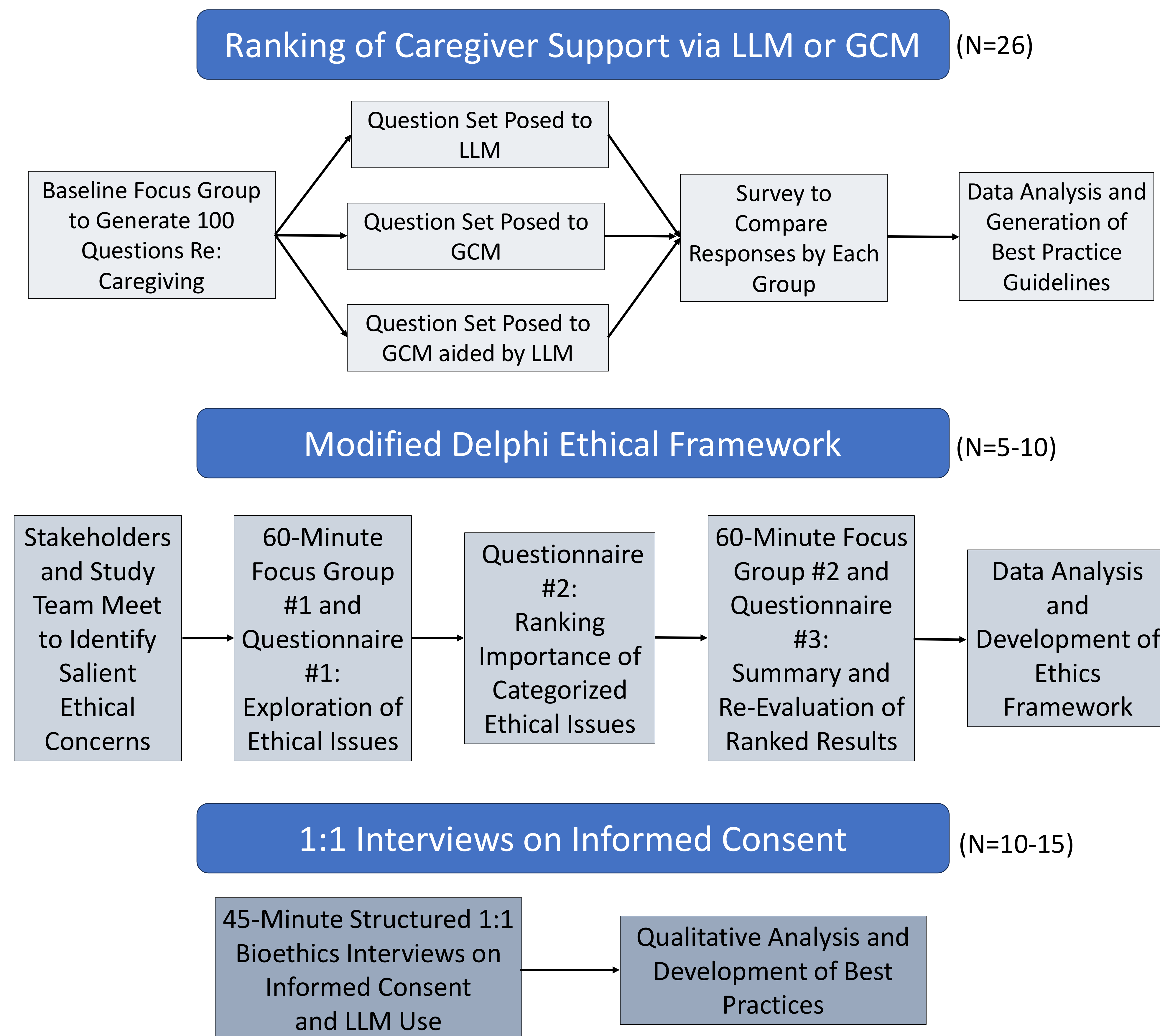
MassAITC AD/ADRD Focus Pilot Core

Background

- **Caregiver fatigue and burnout** is a major driver of burden of care in dementia and resources to support caregivers are scarce.
- **Increasing ubiquity of LLMs** means that it is reasonable to anticipate that caregivers will increasingly turn to these tools for a range of solutions **when Geriatric Care Managers are not accessible**.
- We aim to identify specific domains of care **management that may be best served by AI versus GCMs** and develop an **ethical framework** for meaningful interaction between caregivers and LLMs.

Objectives

- ☑ Gather clinician feedback on utility of Rippl chatbot for clinical use *(Aim 1)*
- ☑ Recruit 25 caregivers for participation *(Aim 2)*
- ☑ Organize and conduct 5 focus groups to create list of 100 common caregiver questions *(Aim 2)*
- ☑ Submit 100 questions to GCM and Rippl chatbot for response and compile results *(Aim 2)*
- ☐ Distribute survey to caregivers to rank preferences between GCM, chatbot, and combined GCM-chatbot approach *(Aim 2)*
- ☑ Conduct 10-15 one-on-one interviews with caregivers to explore conversations on informed consent *(Aim 3)*
- ☐ Implement modified Delphi process with caregivers and academic stakeholders *(Aim 3)*
- ☐ Analyze and synthesize results *(Aims 1-3)*

Project Overview

Ranking of Caregiver Support via LLM or GCM (N=26)

Modified Delphi Ethical Framework (N=5-10)

1:1 Interviews on Informed Consent (N=10-15)

Clinician Feedback

3 clinicians (clinical psychologist, LICSW, and psychiatry resident) explored the Rippl chatbot for 1 hour and provided their feedback.

"I was genuinely surprised by its performance. The AI provided answers that were not only informative and thoughtful but also incredibly practical."

"[The LLM] could be more specific when offering information on local resources."

"The information provided is accurate and broad, while also emphasizing the importance of flexibility and individual needs."

Focus Group Brainstorm to Develop Common Caregiver Questions

Over the course of 6 Baseline Focus Groups, we have accumulated over 100 caregiver questions across 3 main domains:

Factual:
- What tracking devices can I use to protect my loved one?
- Where can I find caregiver support groups in my area?
- When should I consider palliative care?

Problem Solving:
- What tasks can I have my loved one help me with so they feel productive?
- How do I get my care recipient to take their medication?
- How do I facilitate trust with my care recipient?

Emotional Support:
- How do I set boundaries as a caregiver?
- Is it ok to lie to my loved one?
- My young children are frightened by my mother's sundowning symptoms.

Next Steps

- Conduct rank ordering of 100 question responses, the modified Delphi protocol, and final analysis of results