Medication discrepancies, i.e., unexplained differences in medication regimens across different sites of care, are very common and represent a major threat to patient safety. One solution is medication reconciliation. The AHRQ-funded Multi-Center Medication Reconciliation Quality Improvement Study (MARQUIS), conducted at five US hospitals, consolidated best practices and rigorously evaluated them in a real-world setting. Results showed significant reductions in potentially harmful medication discrepancies. The MARQUIS toolkit, now refined based on lessons learned from the prior study, provides a scalable and testable approach to markedly improve medication safety at numerous institutions.

The long-term objective of this research is to widely disseminate, implement, and evaluate sustainable medication reconciliation interventions that improve patient safety during care transitions. We aim to implement the refined MARQUIS toolkit at 18 diverse hospitals using a mentored implementation model, to rigorously evaluate the effects on unintentional medication discrepancies, and to evaluate the success of implementation using the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, and Maintenance) to inform future dissemination.

Prospective sites will be selected based on their interest and on their readiness to participate (e.g., demonstration of institutional support and data collection resources). Mentors will conduct one site visit and monthly phone calls to assist local site leaders with implementation. The MARQUIS toolkit will include a core "medication reconciliation bundle"; the use of more intensive interventions in high-risk patients; provider training and the use of dedicated personnel for certain tasks (e.g., discharge medication counseling); improving access to pre-admission medication sources (e.g., by empowering patients to maintain their own medication lists); improving implementation of information technology; and social marking techniques aimed at both patients and providers. The primary outcome will be the number of unintentional medication discrepancies in admission and discharge orders using methods refined over several studies and analyzed using segmented regression methods to measure improvement over baseline temporal trends. Program evaluation using RE-AIM will provide lessons to inform the spread of future medication reconciliation interventions. A Patient-Family Advisory Council will ensure that patients assume a vital role in the research effort. Dissemination plans will be developed with input from a multi-stakeholder team.

This project will provide valuable information regarding the most effective ways to support safe medication use and improve health care delivery during care transitions.