

Abstract

With over 1.5 million people receiving care in nursing homes in the U.S., these facilities house more beds than do acute care hospitals. The average nursing home resident uses 6 or more medications, and 20% use 10 or more. Adverse drug events (ADE) are common in these facilities and are often preventable. The occurrence of preventable ADEs in skilled nursing facilities (SNFs) is a serious medication-use concern.

This proposal's objective is to conduct and publish the results of an exploratory pilot project on a human factors approach to geriatric medication safety, so as *to qualify the co-investigator team to conduct larger confirmatory studies* of this intervention. The study has two aims: (1) To test nursing home staff *acceptance and usability of Crew Resource Management (CRM)* strategies for reducing medication errors in a skilled nursing facility by examining changes in safety culture, teamwork culture, organizational climate, and stress recognition. (2) To test the *feasibility of objectively assessing the impact of CRM intervention on reducing adverse drug events (ADEs)* in an SNF by examining changes (pre and post) in the incidence of preventable ADEs, severity, impact on the patient and stage of medication use process (ordering, transcribing, dispensing, administration, and monitoring).

Consistent with our developmental aims, the design is an exploratory cross-sectional time series study with repeated retrospective measures of ADE outcomes and safety attitudes. The primary study subjects will be the full-time and part-time staff (n=148) of an urban SNF serving predominantly African American residents. The SNF's long-stay residents (n=1,800 resident months per year) will be the secondary study subjects. The intervention design is adapted from Crew Resource Management (CRM) approaches proven highly effective in the field of safety engineering, particularly the aviation industry. Two CRM strategies, the Safety Attitudes Questionnaire (SAQ) and the Perceived Hazard Questionnaire (PHQ) will feed a team activation process designed to move from a culture of blame to one of safety. The CRM error reduction intervention cycle will use anonymous team input to rate medication hazards, set priorities, form action teams, devise system change projects, and implement and evaluate team-initiated systems changes.