

## Case Study 2: Cardiac Rehabilitation

1. Describe the evidence to be translated and its relation to a health problem.

- a. What evidence (health-related behavior, test, procedure, treatment, intervention, program) will be translated?

We are evaluating cardiovascular rehabilitation—a program of education and exercise that is designed to reduce mortality and recurrent events in patients with cardiovascular disease. Our proposal is comparing 2 different implementation strategies for home-based cardiac rehabilitation (CR) to determine whether utilizing a bedside visit during hospitalization is worth the additional cost and effort to improve patient participation and clinical outcomes compared to simply contacting patients after discharge to attempt to enroll them.

- b. Justify the evidence is ready to be translated (including in the local context).

Cardiac rehabilitation programs have been proven to substantially reduce mortality and recurrent cardiovascular disease events. Home-based CR has been shown in multiple studies and in two Cochrane reviews to be of similar efficacy as traditional center-based CR programs that require patients to travel to a facility and undergo supervised exercise. CR is one of nine recommendations by the American College of Cardiology and American Heart Association for patients who have had a myocardial infarction (MI), percutaneous coronary intervention (PCI, or coronary artery bypass surgery (CABG).

However, participation in CR is extremely low with <20% of Medicare patients and ~10% of veterans in VA participating in any CR. In order to improve participation home-based CR program have begun to emerge, particularly in VA, as a mechanism to reduce barriers and make participation easier for eligible patients.

By evaluating rates of participation, and using the powerful resources of VA data to determine rehospitalization rates, we will measure the most relevant metrics to assess and rapidly provide feedback on patient utilization and outcomes. In 2014, we implemented a new home-based CR program (that included a bedside visit) for patients hospitalized for MI, PCI or CABG at the SFVA. During its first year, our program markedly expanded participation in CR among Veterans with IHD from 1% in FY12 to 44% in FY14. Before disseminating this program to other VA facilities, it will be critical to determine whether these benefits are worth the additional cost of a bedside visit. Understanding the impact and cost of this in person visit is unknown.

- c. What health problem will translation of the evidence improve? Justify selection of this health problem as a priority in the setting you plan to work.

CR programs were developed to reduce secondary cardiovascular events by improving physical function, medication adherence, and other healthy behaviors such as diet and smoking cessation. Participation has traditionally been low due to numerous barriers including logistical (travel time and distance, available hours of CR), cost (copays), patient knowledge of their disease, and patient motivation for change. By removing some of these barriers and increasing participation we believe patients will have fewer hospitalizations for angina and heart disease, mortality will be reduced, and overall quality of life will be improved due to better physical function and confidence in performing physical activity. Many patients express concern about degrees of physical activity after MI, PCI, and CABG yet do not often participate in CR. By

intervening early and approaching patients while hospitalized they are acutely aware of the impact of heart disease on their lives and we can take advantage of this awareness to improve their behaviors and cardiovascular risk factors.

2. Identify stakeholder communities and conduct outreach to work with them.

a. List key communities/stakeholders involved in translating your evidence

Our proposal is directly responsive to the Director of the National Office of Cardiology who has identified limited availability and poor utilization of CR as critical challenges to be overcome within VA. Recently the Million Hearts Program at the Department of Health and Human Services and Centers for Disease Control and Prevention highlighted increasing CR participation as a major goal over the next 5 years. The American Association of Cardiovascular and Pulmonary Rehabilitation has been in strong support of studying and evaluating implementation of home-based CR programs across the county in different settings. In developing our program we interviewed leaders and staff members of VA clinic-based and home-based rehabilitation programs to identify key facilitators and barriers to success.

b. Consider vested interests of key communities/ stakeholders

We have engaged clinicians at the SFVA to promote CR enrollment and encourage referral of patients to our CR program. Also, patient stakeholders have been involved in research through surveys and interviews that has driven changes and improvements to optimize how we delivery home-based CR.