

## A Study of Cardiac Patients in a Community-Based Program

**Rationale:** The improved clinical status achieved by patients in multifactorial cardiac rehabilitation reduces measures of health care and medical costs.

**Objective:** To determine the influence of multifactorial cardiac rehabilitation [CR] on clinical variables, measures of health care use, and medical costs in cardiac patients.

**Methods:** Eighty-eight [88] patients [58 men, 30 women (34%)], including 52 [59%] having comorbid diabetes mellitus, mean age  $65 \pm 9$  years served as subjects. They were enrolled in a multifactorial cardiac rehabilitation program [CRP] at the Marshall University Diabetes Exercise and Cardiac Rehabilitation Center. Interventions included an exercise program, smoke cessation, nutritional counseling, and educational sessions. Patients were risk stratified with a profile that included their history, physical, exercise test, pulmonary function test, lipid profile, CBC, hemoglobin A<sub>1c</sub>, anthropometric measures, and risk factors. Selected measures were repeated at 12 weeks.

**Results:** Significant changes in the *metabolic syndrome* were observed for diastolic blood pressure [P<.05], serum triglyceride [P<.01], and fasting blood glucose [P<.01]. Significant improvement was also seen [P<.01] for the following: hemoglobin A<sub>1c</sub>, total serum cholesterol [TSC], low density lipoprotein cholesterol [LDL-C], NONHDL, and TSC/HDL. In the *Behavioral Domain*, significant improvement was observed with Exercise Compliance [P<.001], Dietary Compliance [P<.001], Medication Compliance [P<.01], and Beck Depression Inventory score [P<.001]. *Economic Domain* variables improving significantly [P<0.01] were Medications, ER Visits, Hospital Admissions, and Physician Visits [P<0.05].

**Conclusions:** Multifactorial CR significantly impacted clinical variables, measures of health care use, and medical costs. Cost standards from the literature were used to estimate medical savings for all participants and then for diabetes patients. For the 52 patients with comorbid diabetes, that translated to an annual savings in paid health care claims of more than \$67,000. Health care savings for the total sample, on the basis of their cardiac status, would be equivalent to more than \$56,000 per QALY.