

Appendix B.3
Of the
Evaluation of Lifestyle Modification and Cardiac Rehabilitation
in Medicare Beneficiaries*

Cardiac Rehabilitation and Survival in Older Coronary
Patients**

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ABSTRACT

Objective

This study assesses the effects of cardiac rehabilitation (CR) on survival in a large cohort of older coronary patients.

Background

Randomized controlled trials (RCTs) and meta-analyses have shown that CR improves survival. However, trial participants have been predominantly middle-aged, low- or moderate-risk, white men.

Methods

The population consisted of 601,099 U.S. Medicare beneficiaries who were hospitalized for a coronary condition or a cardiac revascularization procedure. One- to five-year mortality rates were examined in CR users and non-users using Medicare claims and three analytic techniques: propensity-based matching, regression modeling, and instrumental variables. The first method used 70,040 matched pairs, while the other two techniques used the entire cohort.

Results

Only 12.2% of the cohort used CR. CR-users averaged 24 sessions. Each technique showed significantly lower ($p < .001$) one- to five-year mortality rates in CR-users than non-users. Five-year mortality relative reductions were 34% in propensity-based matching, 26% from regression modeling, and 21% with instrumental variables. Mortality reductions extended to all demographic and clinical subgroups including patients with acute myocardial infarctions, those receiving revascularization procedures, and patients with congestive heart failure. CR-users with 25 or more sessions were 19% relatively less likely to die over five years than matched CR-users with 24 or fewer sessions ($p < 0.001$).

Conclusions

Mortality rates were 21% to 34% lower in CR-users than non-users in this socio-economically and clinically diverse, older population after extensive analyses to control for potential confounding. These results are of similar magnitude to those observed in published RCTs and meta-analyses in younger, more selected populations.