Benchmarking Performance Measures in Outpatient Cardiac Rehabilitation

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Introduction: The American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) recently launched a performance measure initiative targeting programs applying for program certification/re-certification. The intent of this initiative is to highlight the value cardiac and pulmonary rehab have on patient outcomes. The cardiac rehabilitation (CR) performance measures focus on improvements in functional capacity (percent of patients that increase functional capacity by >40%), blood pressure control (percent of patients that have a resting BP of <140/90 mmHg at the end of CR), tobacco cessation intervention, and improvements of at least one level of severity in those whose pre CR depression screen indicated a mild or greater degree of depression.

Purpose: To provide benchmarks for the CR performance measures using data from programs participating in the Montana Outcomes Project (MOP).

Design: A cross-sectional study design was used for CR facilities participating in the MOP.

Methods: Over a one-year time period (October 2015 - September 2016), data were collected from 116 programs representing 18 states. Patients who completed 12 to 36 phase II visits were included. For performance measures requiring pre and post data collection, only those that reported both pre and post values were included in each analysis. In addition to demographic characteristics, data collection also included pre to post program estimation of maximal METs measured by the Duke Activity Status Index (DASI), pre-exercise resting blood pressure (BP) recorded over the last three exercise sessions (average BP for the last three measurements), tobacco cessation referral, and pre to post changes in the PHQ-9 depression survey. Statistical analysis included the paired t-test and chi-square test with statistical significance indicated by a p-value $\leq$0.05.

Results: A total of 9,318 patients were included; they were predominantly white (93.6%), male (70.8%), and had an average age of 67.5 years. The average number of phase II visits equaled 26.5. Among the 79% of patients completing both pre and post DASI, approximately 35% experienced a 40% or greater improvement in their functional capacity over the course of CR. Almost 90% of the patients in the sample had a resting BP reading <140/90 mmHg. Of those that reported tobacco use at CR initiation, 78% were referred to cessation programming. Among the 75% of CR-patients completing pre and post PHQ-9, 41% reported a positive depressive screen (PHQ-9 $\geq$5) at CR entry. Of those with a positive depressive screen, almost 74% had an improvement of at least one depression severity score over the course of CR.

Conclusion: This sample included over 9,000 patients and provides useful benchmarking information related to the CR performance measures. This benchmarking information can be a catalyst to drive quality improvement projects for programs participating in the program certification process through AACVPR.