OBJECTIVES: Compliance with heart failure treatment guidelines may improve quality of care and reduce healthcare utilization and costs. For accreditation purposes, hospitals are required by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) to measure performance for treatment of patients with heart failure. The purpose of this study is to determine the effect of hospital compliance with JCAHO performance measures and published guidelines on outcomes of patients with heart failure (HF).

METHODS: Thirty hospitals submitted data on 1340 patients admitted with HF between January 2, 2002 and March 30, 2002. The data included patient demographics, HF severity, co-existing illnesses, and type of medication therapy during hospitalization and at discharge. Univariate and multivariate analyses such as ordinary least square (OLS) regression, logistic regression, and Cox regression analyses were applied. RESULTS: Current tobacco use and co-existing illnesses such as cardiomyopathy and chronic renal disease were significantly associated with longer hospital length of stay (LOS). Moreover, patients admitted to community hospitals had a lower inpatient mortality rate. Patients receiving discharge instructions regarding follow-up appointment and weight monitoring had significantly lower hospital LOS and mortality. Overall, patients receiving treatment according to published guidelines had lower hospital LOS and inpatient mortality rate. However, receiving treatment in hospitals with a care plan for HF had no significant impact on LOS or mortality. CONCLUSIONS: Hospital compliance with JCAHO performance measures and published guidelines is associated with a significant reduction in patient LOS or inpatient mortality. However, patients treated in hospitals with a care plan for heart failure had no significant change in LOS or mortality.

BIAS IN CATEGORICAL MEDICATION COMPLIANCE ASSESSMENT
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OBJECTIVE: To demonstrate the bias inherent in using categorical data for medication compliance assessments.

METHODS: Two datasets from studies in which patients used electronic monitors (MEMS, AARDEX, Union City, CA) to record long-term daily dosing were used for analyses comparing categorical compliance (>50%, >60%, >70%, >80%, >90%). Study A compared an intervention to improve medication compliance with a usual care control group in a study of Medication Usage Skills for Effectiveness Program (MUSE-P) (Cramer J Nerv Ment Dis, 1999). Study B assessed compliance as a covariate to medication efficacy (Krystal, Cramer, NEJM, 2001). RESULTS: In Study A, analysis by categories of >50%, >60%, >70%, >80%, and >90% compliance rates provided different results for the comparisons between the intervention and control groups. The proportions of intervention and Control group patients who would have been considered compliant were 90–87%, 85–71%, 77−61%, 64–34%, 54–24%, respectively by category. Differences between the intervention and control groups increased with higher standards of compliance (ratios 1.06, 1.22, 1.30, 1.92, 2.33). In Study B, decreasing proportions of patients met criteria for compliance categories (56%, 50%, 44%, 35%, 26%, respectively). Changing categories affected regression models with the primary outcome. CONCLUSIONS: This exercise demonstrated the biases that occur when compliance is calculated by category because of lack of information to support selection of a category designating appropriate compliance. Information that would define a category below which a medication is ineffective is available for very few medications. Without such information, selection of a category as a determinant of medication compliance is inappropriate. This problem was removed by using continuous compliance data.

CORRELATIONS BETWEEN A STAGE OF CHANGE MEASURE AND FOUR VALIDATED MEASURES OF MEDICATION COMPLIANCE
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OBJECTIVES: The literature contains a plethora of articles on medication compliance research, however, no “gold standard” in the measurement of compliance has been established. The Stage of Change (SOC) construct measure from the Transtheoretical Model of behavioral change has recently been validated in medication compliance. The objective of this study is to compare the SOC measure against Four other validated compliance measures in patients being treated for diabetes, hypertension, hypercholesterolemia, hypothyroidism, and hormone replace therapy. METHODS: A total of 171 male and female patients in five primary care physician offices in the state of Georgia, USA, completed a face-to-face questionnaire consisting of the SOC measure, the Medication Adherence Scale, the Medication Outcomes Survey (MOS) compliance question, the Brief Medication Compliance Questionnaire (BMQ) and sociodemographic information. Pharmacy refill records (RR) were collected as the fifth compliance measure. RESULTS: Pearson correlations ranged from a low of 0.09 between RR and BMQ to a high of 0.79 between SOC and MOS. All other correlations ranged between 0.20 and 0.49. All correlations proved significantly different than zero (p < 0.05) with the exception of the RR and BMQ correlation. CONCLUSIONS: The majority of correlations between validated measures of compliance ranged from weak to moderate in strength. Therefore the results of this study show selection of a useful compliance measure is difficult. The study findings emphasize that assessing medication-taking behavior of patients and comparing the results of different compliance studies is problematic. The develop-