We aimed to describe the contemporary management of patients with systolic chronic heart failure (CHF) during a cardiac rehabilitation (CR) stay and present outcomes with focus on lipids, blood pressure, exercise capacity, and clinical events. Comparison of 3199 patients with moderately or severely impaired left ventricular ejection fraction (low EF, 13.3%) and 20,913 patients with slightly reduced or normal LVEF (normal EF, 86.7%) who underwent an inpatient CR period of about 3 weeks in 2009-2010. Patients with low EF compared to those with normal EF were somewhat older (65.1 vs. 63.0 years, p< 0.0001), and more often had risk factors such as diabetes mellitus (39.7% vs. 32.0%, p< 0.0001) or other comorbidities. The overall rate of patients with regular physical activity of at least 90 minutes per week prior to CR was low overall (54.4%), and reduced in patients with low EF compared to those with normal EF (47.7% vs. 55.5%, p< 0.0001). The rate of patients that achieved lower LDL cholesterol (<100 mg/dl), total cholesterol (<200 mg/dl) and triglyceride (<150 mg/dl) values at discharge increased compared to baseline. Mean blood pressure was substantially lower in the low EF group compared to the normal EF group both at baseline (124/75 vs. 130/78 mmHg, p< 0.0001) and at discharge (119/72 vs. 124/74 mmHg, p< 0.0001). Maximum exercise improved.
substantially in both groups (at baseline 71 vs. 91 Watts, p < 0.0001; at discharge 85 vs. 105 Watts, p < 0.0001). Event rates during CR were low, and only 0.3% in the low EF group died. As limitations to this study, information on brain natriuretic peptide (BNP), N-terminal pro-brain natriuretic peptide (NT-pro BNP) and/or cardiac troponin were not documented, and no long-term information was collected beyond the 3-week CR stay. Patients with CHF account for a considerable proportion of patients in CR. Also patients with moderate/severe EF benefited from participation in CR, as their lipid profile and physical fitness improved.