Title: Improvement in Cardiovascular Prevention Culture Using NCDR Registries: A Brazilian Experience

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Background: As the American Heart Association indicates, the cardiac rehabilitation (CR) does not change your past, but it can help you improve your heart’s future, it is a significant strategy and should be offered to all eligible patients after CABG, classified as Ib, (ACC/AHA 2004, guideline update for coronary artery bypass graft surgery). In 2007 guidelines, both for ST-Elevation Myocardial Infarction (STEMI) and for Unstable Angina and Non-ST-Segment Elevation Myocardial Infarction (NSTEMI), there are strong recommendations advising medically supervised programs CR for high risk patients, particularly those with multiple modifiable risk factors and/or moderate-to high risk patients in whom supervised exercise training is particularly warranted. In the ACC/AHA guidelines for the evaluation and management of chronic heart failure (HF) in the adult, the exercise training is beneficial as an adjunctive approach to improve clinical status in ambulatory patients with current or prior symptoms of HF and reduced left ventricular ejection fraction. Generally, the most important time for this referral to take place is while the patient is hospitalized for a qualifying event / diagnosis. In Brazil, a developing country with continental dimensions and important regional differences, the mean rate of CR referral after acute coronary syndromes is no more than 30%. Benchmarking with other hospitals through international registries such as NCDR is important not only in the management of Acute Myocardial Infarction (AMI) patients with challenges to change the bed-side delivery care, but can be considered as a tool for improving outcomes and enhancing quality of life for our patients. When the subject is CR referral, it is very important to set as goal the international benchmark, since the national numbers are extremely low.

Methods: In a general private tertiary care hospital (more than 500 bed, and approximately 194,000 patient-days yearly) in Brazil, the AMI clinical protocol, a multifaceted strategy, was designed and implemented as a strategic plan that leads to new challenges, encourage interaction with the clinical staff and the multidisciplinary team, continuous improvement in quality and safety indicators for cardiology patients. The CR referral indicator is the percentage of adult patients (18 years old or more), hospitalized with AMI who are referred to an outpatient CR/secondary prevention program during their AMI hospital stay. The data source was the medical record registry and the care setting was inpatient.

Results: Since 2015, our CR referral rate was less than 35%, (2015Q1, 31%; 2015Q2, 29%; 2015Q3, 35%; 2015Q4, 29%; 2016Q1, 31%) until 2016Q3, where the patient education flow was revised and a specialized rehabilitation cardiologist started to approach patients about the CR and their benefits, increasing the referral rate to 72%. In 2016Q4, 64%; 2017Q1, 75%; 2017Q2, 78%, and 2017Q3, 71%. This improvement led also to improvement on CR attendance. From 4,073 patients evaluated for CR in 2014 to 6,373 patients in 2016 (56% increase).

Conclusions: Participating in NCDR registries provided to a developing country private hospital the opportunity to monitor quality of care indicators after AMI, such as CR, benchmarking and
leading to significant improvement on referral. Continuous efforts are being made to achieve even better results.