



## **DETERMINANTS OF THE IMPACT OF GUIDELINE BASED REVIEW ON UTILIZATION OF MYOCARDIAL STRESS PERFUSION IMAGING: ROLES OF SELF-REFERRAL, PHYSICIAN SPECIALTY, PATIENT AGE AND TYPE OF INSURANCE**

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### **INTRODUCTION**

Rapid growth in outpatient radionuclide stress testing (MPI) volume has raised concerns regarding radiation exposure, cost and the potential role of self-referral in increasing utilization. CareCore Cardiology recently showed that guideline-driven pre-certification for MPI results in lower approval rates (-24.8%) and a drop in requests. To identify correlates of approval rates, CareCore Cardiology examined their relationship to physician specialty, self-referral, patient age, gender and insurance type.

### **AUTHORS**

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### **METHODS**

A pre-certification algorithm developed Care Core Cardiology Management, based on ACC/AHA/ASNC practice guidelines and appropriateness criteria, was used from 2/03/06-4/30/06 in a population of 829,360 covered lives within Commercial (95.1%, ages 20-90 years) and Medicare (ages 30-90 years) health insurance plans to evaluate 9,311 requests for MPI (16% Medicare).

### **RESULTS**

Most tests were requested by cardiologists (74%) who had higher approval rates (81.6%) than other physicians (70.7%,  $p < 0.0001$ ). Most cardiologist-requested tests were self-referred (59.5%). Self-referred tests were approved more often (81.4%) than other-referred tests (76.4%,  $p < 0.001$ ) but approval rates did not differ after adjustment for physician specialty. Approval rates were associated with patient age (odds ratio 1.7 per decade, 95% limits 1.62-1.79) and physician

specialty, cardiologist versus non-cardiologist (odds ratio 1.62, limits 1.45-1.80) and were higher for Medicare (90%) than for commercial insurance (76.5%,  $p < 0.001$ ) patients. After age adjustment, insurance type had no effect on approval rates. Self-referral rates did not differ for Medicare versus Commercial insurance.

### **CONCLUSIONS**

Using guideline-based algorithms for MPI, approval rates were higher for older patients and for tests requested by cardiologists. No independent effect of self-referral on guideline-driven approval rate adjusted for medical specialty was found. These results do not demonstrate adverse effects of self-referral and suggest that cardiologists have integrated guidelines and appropriateness criteria for MPI into practice more completely than have other physicians who order such testing.

### **ABOUT CARECORE CARDIOLOGY MANAGEMENT**

Founded in 2006, CareCore Cardiology Management enables health plans to interface with physicians and patients to determine the optimal cardiologic procedure at the most appropriate time. Using clinical pathways devised of evidence-based guidelines, CareCore Cardiology makes appropriateness decisions concerning cardiac procedures to reduce unnecessary patient radiation exposure and duplication of services, resulting in reduced cost and streamlined patient care.

**\*Reference:** Reichek N, Grossman D, Amico R, Gerstenblith G, Brinker JA, Winters S, Calkins H, Han J, Levine J: Determinants of the impact of Guideline Based Review on Utilization of Myocardial Stress Perfusion Imaging: Roles of Self-Referral, Physician Specialty, Patient Age, and Type of Insurance *Journal of the American College of Cardiology* 49: 292A Supplement A, March 2006. Presented at the Scientific Sessions of the American College of cardiology, March 26, 2007, New Orleans, LA