

## EFFECT OF GUIDELINES ON UTILIZATION OF MYOCARDIAL STRESS PERFUSION IMAGING

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### INTRODUCTION

Guidelines for the clinical use of cardiac testing have been established and published jointly by the American College of Cardiology (ACC), American Heart Association (AHA), and American Society of Nuclear Cardiology (ASNC). However, the potential impact of such guidelines on utilization of testing procedures had not been previously assessed. In 2006, CareCore Cardiology Management examined the impact of a pre-certification guideline on the utilization of radionuclide stress testing.

### AUTHORS

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### METHODS

CareCore Cardiology Management developed algorithms for pre-certification of nuclear stress tests, which were based on ACC/AHA/ASNC practice guideline for the clinical use of cardiac radionuclide imaging (2003). From 2/03/06-4/30/06, the guideline was used in the pre-certification of requests for nuclear stress testing for Aetna Commercial and Medicare health insurance plans. The study was based on requests submitted by practicing physicians caring for a population of 829,360 covered lives in the New York Metropolitan area:

- Aetna Commercial Health Insurance
  - 806,629 Members
  - Average Age 33 Years
  - 51% Female
- Aetna Medicare Health Insurance
  - 34,706 Members
  - Average Age 73 Years
  - 57% Female

CareCore Cardiology Management evaluated numbers and rates per 1000 insured of requests with determinations of approval, denial and withdrawn. The results were compared with those in

10/05-1/06 and those in the matched time period one year prior to guideline introduction (Tables 1 and 2).

**TABLE 1 COMPARISON 2/06-4/06 TO 2/005-4/05**

Variable	Authorizations Per 1000 (2/06-4/06)	Authorizations Per 1000 (2/05-4/05)	$\chi^2$	p
Approvals	27.18	36.14	269.9	<0.0001
Denials	7.00	0.35	1250.0	<0.0001
Withdrawals	0.78	0.49	13.2	0.0003
Other	1.46	2.07	21.8	<0.0001
Total MPI Requests	36.42	39.05	19.7	<0.0001
Denial Reversal	0.85	0.09	126.4	<0.0001
Upheld Denials	0.89	0.02	170.6	<0.0001
Total Reconsiderations	1.79	0.13	299.1	<0.0001

**TABLE 2 COMPARISON 2/06-4/06 TO 10/05-1/06**

Variable	Authorizations Per 1000 (2/06-4/06)	Authorizations Per 1000 (10/05-1/06)	$\chi^2$	p
Approvals	27.18	31.37	73.4	<0.0001
Denials	7.00	0.55	1556.2	<0.0001
Withdrawals	0.78	0.47	19.8	<0.0001
Other	1.46	1.68	3.7	0.0549
Total MPI Requests	36.42	34.07	19.7	<0.0001
Denial Reversal	0.85	0.05	200.6	<0.0001
Upheld Denials	0.89	0.03	230.6	<0.0001
Total Reconsiderations	1.79	0.09	440.7	<0.0001

## CONCLUSIONS

The use of guideline-based algorithms resulted in a marked fall in approvals and utilization of nuclear stress testing (-24.8% vs. matched period, -13.4% vs. 4 months prior) with low rates of denial appeals and reversals. The effect on outcomes remains to be determined, but guideline-driven algorithms for test utilization may offer substantial savings in health care costs.

## 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 J, Winters S, Calkins H, Han J, Covert J, Levine J: Initial Effect of Guideline Implementation on Utilization of Myocardial Stress Perfusion Imaging. *Circulation* 114: II-836. October 31, 2006. Presented at the American Heart Association Scientific Session, November 12, 2006, Chicago, IL.