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**Impact of Disruptions in the Tc-99m Supply Chain
on Cardiac Testing**

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ABSTRACT

Background: The impact of disruptions to the Tc-99m supply chain on cardiac stress testing patterns and downstream cardiac catheterization use is unknown.

Methods: We used the 20% random sample of fee-for-service Medicare beneficiaries ≥ 65 years undergoing cardiac stress testing with single photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI) from 2008 through 2012 to evaluate changes in the use of Tc-99m for SPECT MPI and the rates of downstream cardiac catheterization (\leq during the March to August 2010 Tc-99m shortage period).

Results: During the shortage, use of Tc-99m decreased from 64% to 49% of SPECT MPI. After adjustment for age, sex and race, patients who underwent SPECT MPI during the shortage period were more likely to undergo cardiac catheterization within 90 days (odds ratio 1.09, $p < 0.0001$), corresponding to 5715 excess heart catheterizations nationally among Medicare beneficiaries.

Conclusions: Shortages of Tc-99m are associated with increased rates of downstream cardiac catheterization.