

Development of an Educational Strategy and Knowledge Translation Tool to Enhance Appropriate Use of Stress Echocardiography at a Large Academic Medical Center: A prospective, Pre- and Post- Intervention Analysis

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Background: Despite previous studies demonstrating sub-optimal appropriate use of Stress Echocardiograms (SE), there are few effective interventions to improve its appropriate use.

Methods: A prospective, pre and post analysis was conducted. The intervention included education and development/implementation of a point of care ordering requisition coupled with a knowledge translation (KT) tool that integrated Appropriate Use Criteria (AUC).

Results In the baseline period, 256 consecutive SEs were evaluated and 97% were classifiable by 2011 AUC. During the intervention period, 159 studies were evaluated (98% classifiable). The intervention resulted in an increase in the appropriate proportion from 65% to 76% and a reduction in the inappropriate proportion from 31% to 19% ($p=0.017$). After adjustment for physician specialty, the post-intervention period had lower odds of inappropriate testing (0.54 95% CI 0.3-0.95; $p=0.04$). Cardiology had significant lower odds of inappropriate testing (0.23; 95% CI 0.11-0.50; $p=0.0001$) as compared to family practice (the reference standard). Vascular surgery had the highest odds (5.76; 95% CI 2.18-21.52; $p=0.002$) of inappropriate testing.

Conclusion Development of an educational intervention involving a new requisition and KT tool that integrated AUC resulted in a significantly reduced inappropriate proportion of SE. Cardiologists ordered the highest proportion of appropriate SE. Further study is needed to determine the generalizability of the results. #