



# National Initiative to Improve Utilization of Cardiac Imaging: The FOCUS Learning Community and Performance Improvement Module

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## Background

The growth of medical imaging has placed burdens on healthcare finance and raised questions about quality of care. Resource sensitive and quality-centered imaging begins with the selection of the appropriate patient and test. Appropriate use criteria have been developed to aid clinicians but are often not in an easily accessible format. FOCUS, a web-based community, quality improvement and education product, was developed to reduce inappropriate imaging by 15% in one year and by 50% within three years

## Methods

Voluntary data collection occurred from April 2010 to March 2011 through the FOCUS Radionuclide Imaging Performance Improvement Module (PIM). Thirty participating sites had completed the first two stages and were included in this analysis. Appropriate use was measured based on the 2009 RNI Appropriate Use Criteria using a computer based algorithm to determine the appropriate use category. The PIM consisted of three stages. Patient cases were entered first in stage 1, to establish a baseline, at the end of stage 2, to check the participants progress, and in stage 3, to evaluate the intervention period, which is currently in progress. Appropriate, inappropriate, and uncertain levels were compared between phases of the PIM. A Chi X test was used to evaluate statistical significance.

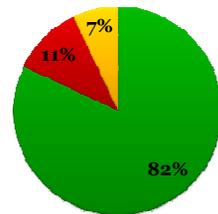
## Results

For the 30 participating sites that had completed the two stages the proportion of inappropriate cases decreased from 11% (146/1344) to 5% (54/1026), for an overall decrease of 55% ( $p < .0001$ ). Similarly appropriate cases increased from 82% (1099/1344) to 90% (922/1026) (See Chart 1). Percentages for each inappropriate indication, for these 30 sites, can be seen in the "Inappropriate Indications- Stage 1" graph. No dramatic changes in any individual indications were seen between stages 1 and 2. In addition many common themes and ideas for improvement emerged from the physician responses in the action plan and implementation phase.

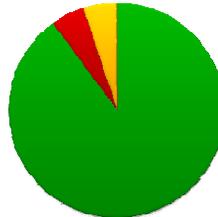
## Conclusion

The data suggests that through the use of a self-directed, quality improvement software and interactive community, such as the FOCUS PIM, physicians can significantly decrease the proportion of tests not meeting appropriate use.

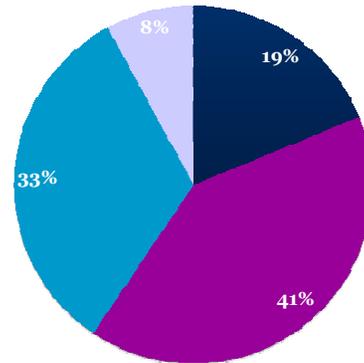
## Stage 1



## Stage 2



## Inappropriate Indications – Stage 1



■ Other  
■ Low Risk Symptomatic  
■ Perioperative  
■ Post PCI

## Chart 1

Patient Cases	Stage 1	Stage 2	% Stage 1	% Stage 2	% Relative Change
Appropriate	1099	922	82%	90%	+10%
Inappropriate	146	54	11%	5%	-55%
Uncertain	99	50	7%	5%	-3%
<b>TOTAL</b>	<b>1344</b>	<b>1026</b>	<b>100%</b>	<b>100%</b>	

## Performance Improvement Module Basics

### Stage 1

- Participants enter patient cases (prospective or retrospective) to establish a baseline

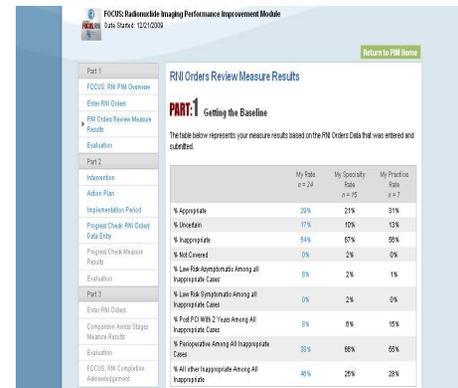
### Stage 2

- Develop and Implement action plan and goals
- Enter patient cases again
- Incorporates quality improvement activities to support appropriate use of imaging

### Stage 3

- Enter final set of patient cases
- View effects of implementation
- Evaluation of intervention period (stage 2)

## FOCUS PIM Screenshot



## Discussion

Creating platforms for data review and communication, such as the FOCUS PIM, provides a pathway for physicians to not only decrease their rate of inappropriate testing, but also to establish best practices and disperse new ideas and techniques for improved imaging utilization. FOCUS participants shared a wide array of educational approaches and quality techniques that they employed to impact change in their practices. The majority of participant's goals were to increase education and awareness about appropriate use criteria and to review and discuss data with fellow physicians. Physicians also wanted to improve communication with primary care physicians. Most participants hoped to accomplish these goals through actions such as tracking their practice patterns and outcomes and spending more time completing patient histories. Physicians also wanted to use order tip sheets to help choose the right test and monitor AUC rates for not only individual physicians, but also entire practices and referring physicians.

For more information go to [www.cardiosource.org/focus](http://www.cardiosource.org/focus)