

# **eHealth Initiative: Creating a Continuum of Seamless Care Heart Health**

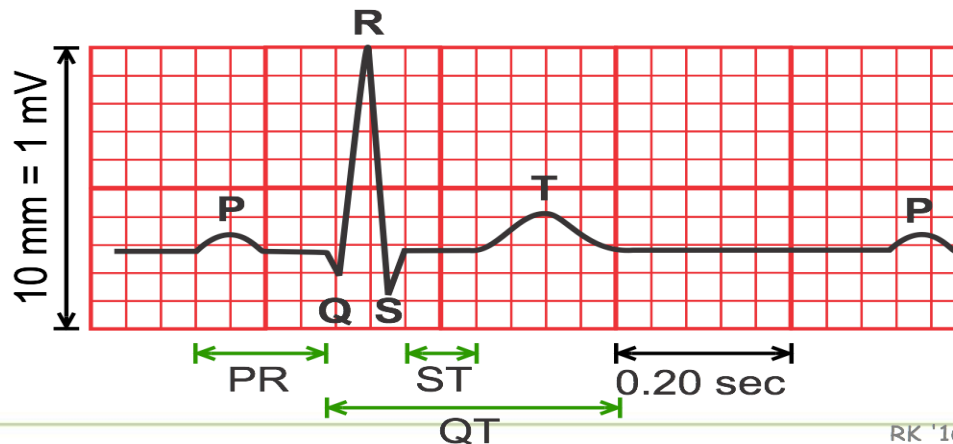
William T. Thorwarth Jr. MD, FACR  
CEO, American College of Radiology  
October 17, 2017

# DISCLOSURES

No financial disclosures

But

I must disclose that I am **VERY HAPPY** to be here with all of you today and have gained a whole new respect for the resting ECG

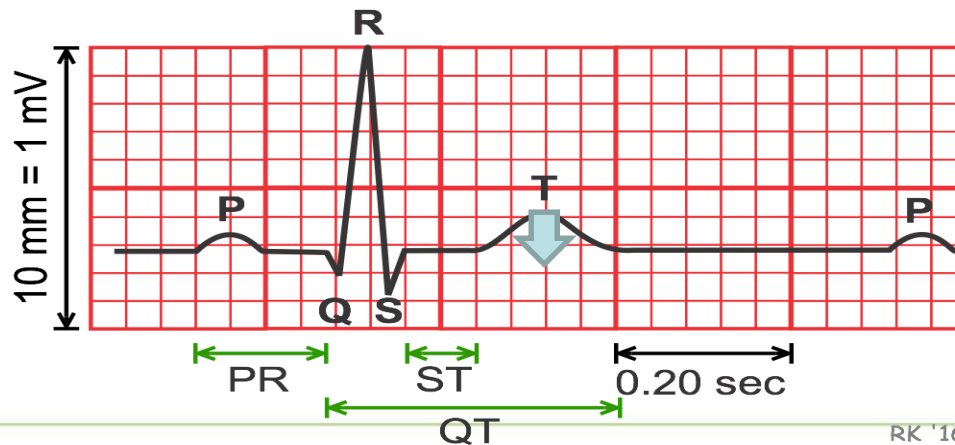


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# BENEFITTED FROM BOTH CARDIOLOGY AND RADIOLOGY CARE

- Sequence:
  - Flat T waves on resting EKG at routine PE – Int. Med.
  - Treadmill stress test w/o imaging - ST segments drop - Cardiology
  - CCTA - “complete” LAD occlusion with collaterals - Radiology
  - Lt. Heart cath – confirmed complete LAD and mild Lt. main - Cardiology
  - Stress cardiac MRI – No infarct but ischemia with stress - cardiology
  - Post bypass CXR - radiology

# The Challenge

“Despite wondrous advances in medicine and technology, health care regularly fails at the fundamental job of any business: to reliably deliver what its customers need.”

Lee and Cosgrove

Engaging Doctors in the Healthcare Revolution

HBR June 2014

# The Transformation of Diagnostic Radiology in the ACO Era

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**As health care undergoes** fundamental redesign organized around increasing the value of care for populations, most of the discussion has focused on primary care and its role in managing the care of these populations. Relatively less attention has been given to specialty care population management, especially for hospital-based specialties such as diagnostic radiology. In radiology, an analysis of such a change is important and similar issues likely apply to other specialist activities as well.

Technological advances in diagnostic radiology have fueled growth in its clinical applications and use. A predictable but unwanted consequence is that diagnostic radiology has been an important driver of health care costs,<sup>1</sup> creating an apparent dilemma for the specialty. Specifically, should radiologists be advocates of broader use of these potentially life-saving technologies or should they be gatekeepers who take responsibility to control access and costs?

This apparent dilemma creates a false choice for the profession; the former role abdicates the patient care responsibility of the radiologist as a physician, while the latter creates an adversarial relationship between radiologists and other physicians. Rather, radiology and other technology-dependent fields should focus on how to maximize the value of medical imaging (and other tests and procedures) by becoming integrated better into patient care. By being members of care delivery teams, specialists in these disciplines can recommend strategies that maximize the benefits of medical imaging while minimizing the risks and costs.

In a traditional fee-for-service reimbursement environment, the increase in clinical use of diagnostic imaging services coupled with generous payment rates has contributed to substantial growth in the clinical revenues generated by these services. These revenues became important contributors to the financial vitality of hospitals and physician practices. However, diagnostic radiology was correspondingly identified as a driver of increased health care costs. In 2006, Iglehart<sup>1</sup> reported

insurance coverage of the newest emerging imaging technologies and novel image-guided interventional services has slowed. The combined effect of these actions has been powerful—the utilization and aggregate cost of imaging services peaked in 2008 and both have declined substantially from 2009–2013.<sup>3</sup> Despite these reductions, in a fee-for-service payment model, imaging services continue to be a ‘profit center’ (albeit, a smaller one) for most hospitals and other health care centers.

As part of the national and regional health care reform debates, many leading policy makers have advocated a major shift in the method for payment for medical services—moving away from fee-for-service medicine and toward bundled or capitated payments to hospitals and physicians for managing the health of a defined population of patients. The creation of accountable care organizations (ACOs) is one example of this model of payment. If fully implemented, such a payment system shift would convert diagnostic imaging from a profit center to a cost center. Such a shift would give health systems an economic incentive to reduce further the use of diagnostic imaging and encourage use of potentially less efficacious alternatives.

Many hospitals and physicians who provide diagnostic imaging and image-guided interventional services live in a mixed payer environment, in which some activities are paid on a fee-for-service basis and others become part of risk-based contracting. Both payment models have staying power in the ACOs of the future.

Radiologists and their affiliated institutions, therefore, face a challenging and often paradoxical set of care delivery and margin-generating issues. Tilting in either direction (eg, do more or do less) creates a potentially serious moral and financial dilemma for radiologists and their institutions. Beyond potentially causing operational confusion for both the clinicians and the health system, contradictory financial incentives (doing more in a fee-for-service environment vs doing less in a risk-

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As health care undergoes fundamental redesign organized around increasing the value of care for populations, most of the discussion has focused on primary care and its role in managing the patient. The role of diagnostic radiology has been less clear, especially in the context of value-based care. Insurance coverage of the newest emerging imaging technologies and novel image-guided interventional services has slowed. The combined effect of these actions has been to reduce the value of imaging services, which has been a significant barrier to the adoption of imaging technologies. This has been a significant barrier to the adoption of imaging technologies, which has been a significant barrier to the adoption of imaging technologies.

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As health care undergoes fundamental redesign organized around increasing the value of care for populations, most of the discussion has focused on primary care and its role in managing the patient. The role of imaging has been largely overlooked. The value of imaging services is being eroded by the same forces that are driving the transformation of imaging services. Insurance coverage of the newest emerging imaging technologies and novel image-guided interventional services has slowed. The combined effect of these actions has been to reduce the value of imaging services. This is a significant loss of value for the patient and the system.

“Rather, radiology and other technology-dependent fields should focus on how to maximize the value of medical imaging (and other tests and procedures) by becoming integrated better into patient care. By being members of care delivery teams, specialists in these disciplines can recommend strategies that maximize the benefits of medical imaging while minimizing the risks and costs”.

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# IMAGING 3.0: A NEW APPROACH



Imaging 3.0  
game plan for providing  
optimal imaging care.

## Value-Based Imaging Care

3 Key Actions:

# IMAGING3.0™

Tools



Culture  
Change

Aligned  
Incentives

# Defining Healthcare Value

$$\text{Value} = \frac{\text{Outcome}}{\text{Cost}} \times \text{Appropriateness}$$

***If appropriateness is low, value is low!***

# GUIDING APPROPRIATE IMAGING EVALUATION

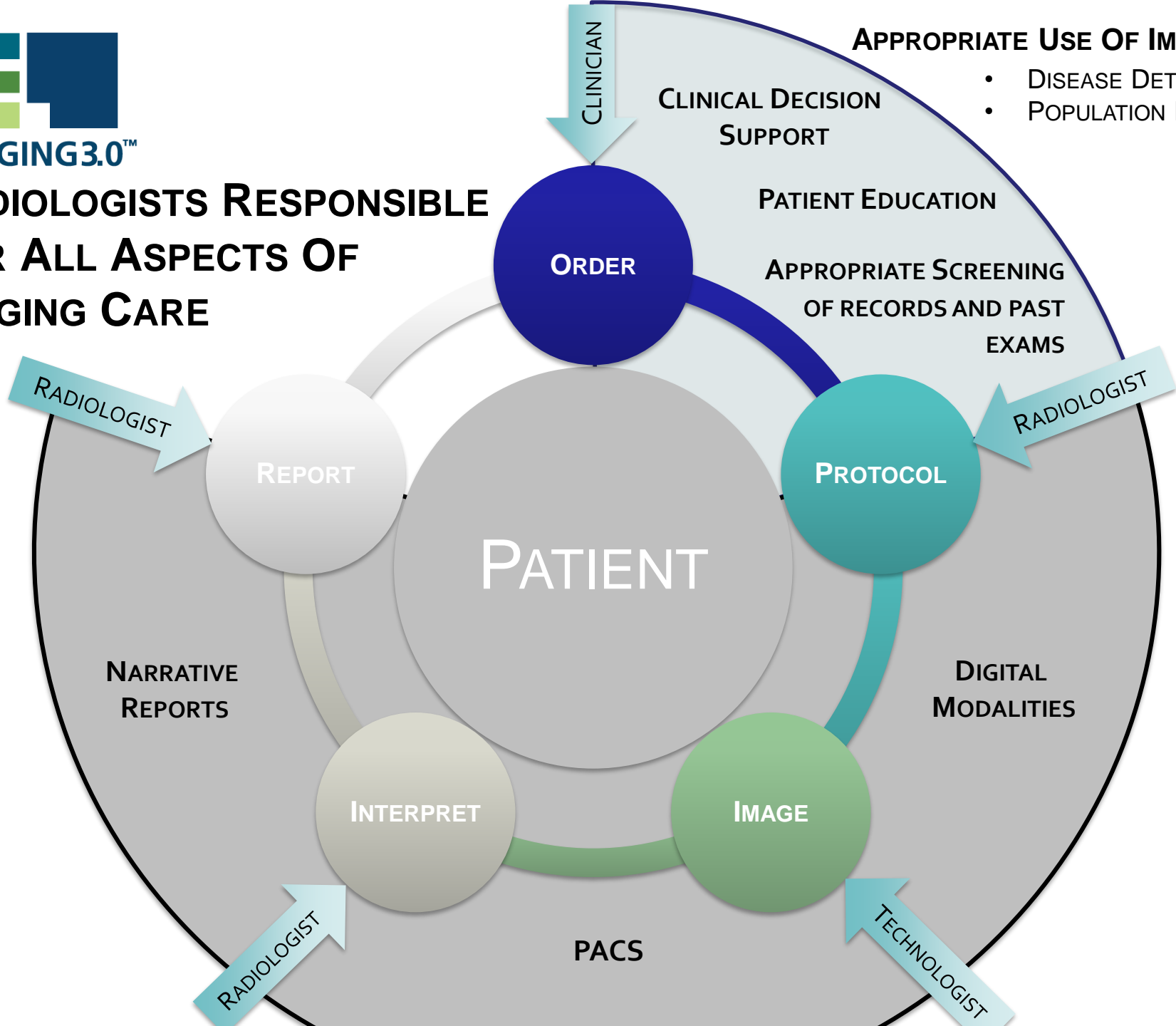
- Both ACR (24 years) and ACC have been developing Appropriate Use Criteria (AUC) for years
- Needed “point of care” guidance
- PAMA 2014 Mandates AUC consultation
- Both ACR and ACC have been approved as “qualified Provider Led Entities”
- Both sets of AUC in widespread use but waiting final CMS implementation 1/1/19



# RADIOLOGISTS RESPONSIBLE FOR ALL ASPECTS OF IMAGING CARE

## APPROPRIATE USE OF IMAGING

- DISEASE DETECTION
- POPULATION HEALTH



# WEB-BASED USER INTERFACE

Developed From The ACR Appropriateness Criteria

NATIONAL DECISION SUPPORT COMPANY | ACRselect | Welcome Dr. Thorwarth

ct abdomen on 45 y/o female with RUQ pain and cholelithiasis

abdomen

Initiate Consultation With Radiologist

Body Area: abdomen

Sex: Female | Age: 45

CT, abdomen pelvis, no iv contrast: 8

Alternate Examinations

- CT, abdomen pelvis, no iv contrast: 8
- CT, abdomen pelvis, wo/w iv contrast: 6
- US kidneys and bladder retroperitoneal with Doppler and KUB: 6
- MR, urography, abdomen pelvis, yes iv contrast: 4
- MR, abdomen pelvis, no iv contrast: 4
- CT intravenous urography: 4
- CT abdomen pelvis with intravenous contrast: 2

Get Appropriateness | Order Examination | Review Evidence | Email Examination

Clinical Indications

- abdominal mass
- adrenal mass
- cancer unspecified
- abdominal pain
- aortic aneurism
- ct/mr/us shows liver lesion

Clinical Scenarios

- Fever, leukocytosis, and classic presentation clinically for appendicitis in adults.
- Fever, leukocytosis; possible appendicitis, atypical presentation, adults and adolescents.
- Fever, leukocytosis, pregnant woman.
- Murphy sign
- renal cancer
- renal insufficiency
- RUQ pain
- pancreatitis
- renal failure
- renal mass
- weight loss

Radiologists Help Assure Correct Test Is Ordered

# WORKFLOW INTEGRATION – EPIC

**BestPractice Advisory - Stillman, Sarah**

Low importance (1 Advisory)

The ordered exam has Marginal utility for the selected clinical condition. Please consider these alternatives:

Appropriateness	Procedure	Cost	RRL
5	CT, head, w iv contrast	\$219.64	⚠️⚠️⚠️⚠️⚠️
8	MR, head, wo/w iv contrast	\$491.30	✅✅✅✅✅
7	MR, head, wo iv contrast	\$439.62	✅✅✅✅✅
7	MR, spine, cervical-thoracic-lumbar, wo/w iv contrast	\$1428.00	✅✅✅✅✅
6	MR, spine, cervical-thoracic-lumbar, wo iv contrast	\$1164.84	✅✅✅✅✅
5	CT, head, wo/w iv contrast	\$221.00	⚠️⚠️⚠️⚠️⚠️
4	CT, head, wo iv contrast	\$167.62	⚠️⚠️⚠️⚠️⚠️
3	PET-CT, head, FDG		⚠️⚠️⚠️⚠️⚠️
2	MR, spectroscopy, head, wo iv contrast	\$479.74	⚠️⚠️⚠️⚠️⚠️
2	NUC, brain scan, head, I-123 ioflupane, SPECT	\$364.48	⚠️⚠️⚠️⚠️⚠️

[Click here for ACR Appropriateness Criteria reference information](#)

Acknowledge reason:

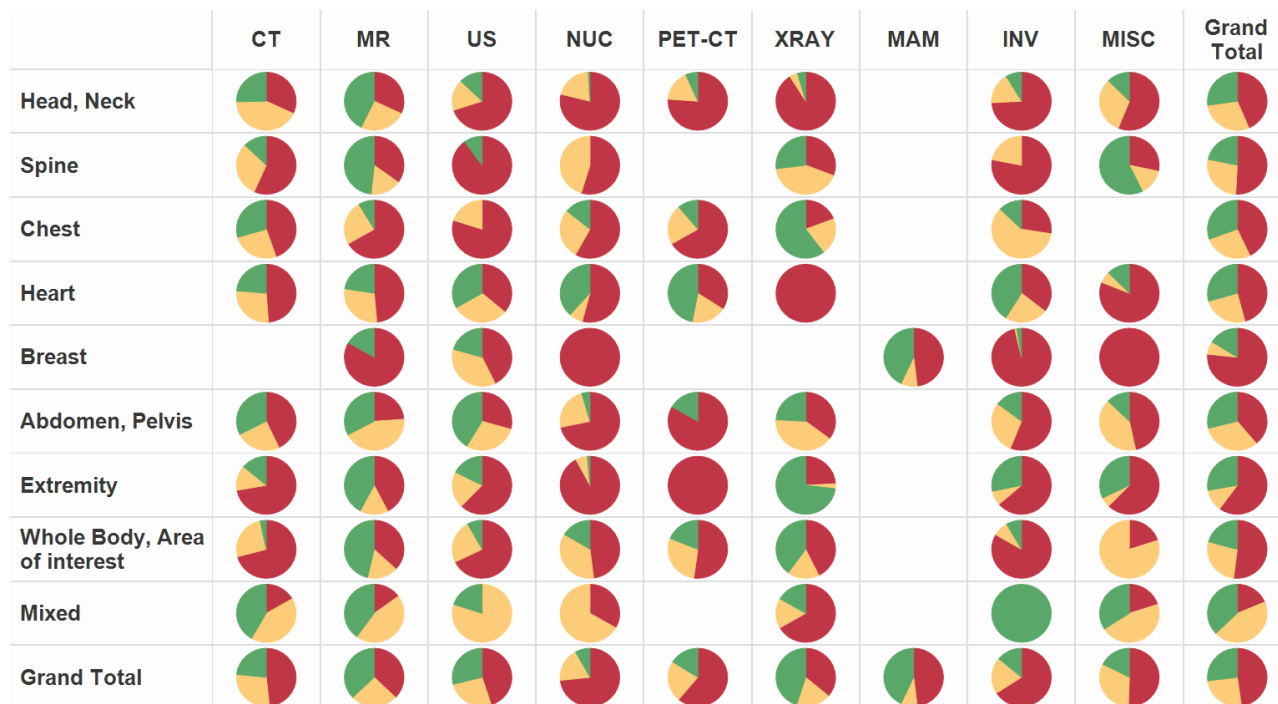
Low Risk | Intolerant to MRI | See Comments

- Remove unsigned order: CT Scan Head Contrast (DSS) Routine
- Add to unsigned orders: MR, head, no iv contrast
- Add to unsigned orders: MR, head, wo/w iv contrast
- Add to unsigned orders: MR, spine, cervical-thoracic-lumbar, yes iv contrast

Accept Cancel

# ACR APPROPRIATENESS CRITERIA

## STUDY QUALITY REPORT – 5,962 REFERENCES



- 97% OF AC DEVELOPED GUIDELINES ARE INFORMED BY CATEGORY 1 OR CATEGORY 2 REFERENCES
- 3% INFORMED BY ONLY CATEGORY 3 REFERENCES
- NONE INFORMED BY ONLY CATEGORY 4 REFERENCES

# 2012 IOM REPORT: BEST CARE AT LOWER COST



INSTITUTE OF MEDICINE  
OF THE NATIONAL ACADEMIES

FIGURE: A Continuously Learning Health Care System

Best Care at Lower Cost

Decision support tools and knowledge management systems can be included routinely in health care delivery to ensure that decisions are informed by the best evidence.

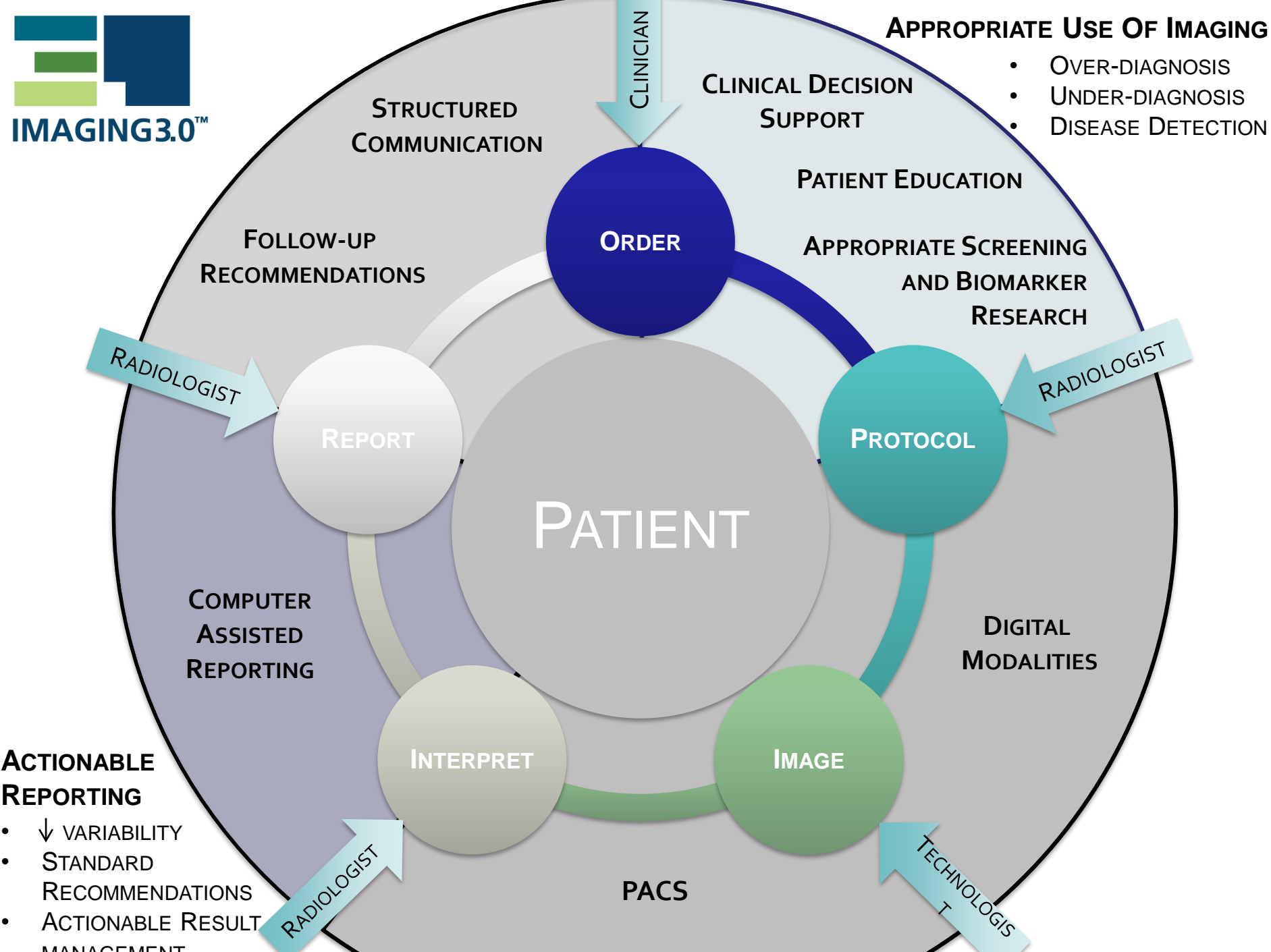


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**APPROPRIATE USE OF IMAGING**

- OVER-DIAGNOSIS
- UNDER-DIAGNOSIS
- DISEASE DETECTION





















# WORKING TOGETHER

< Previous Article [December 2016](#) Volume 13, Issue 12, Part A, Pages 1458–1466.e9

[Next Article >](#)

## CAD-RADS™: Coronary Artery Disease – Reporting and Data System

An Expert Consensus Document of the Society of Cardiovascular Computed Tomography (SCCT), the American College of Radiology (ACR) and the North American Society for Cardiovascular Imaging (NASCI). Endorsed by the American College of Cardiology

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# SUMMARY

- Appropriate use of imaging is the objective of all
- Both radiology (ACR) and cardiology (ACC) have prioritized this effort
- Guidance to evidence based recommendations must be seamless at point of care
- Reporting must also be standardized to provide consistent actionable recommendations.

# THANKS

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