

AIMed Radiology 2019

AI for the Radiology Report

June 19, 2019

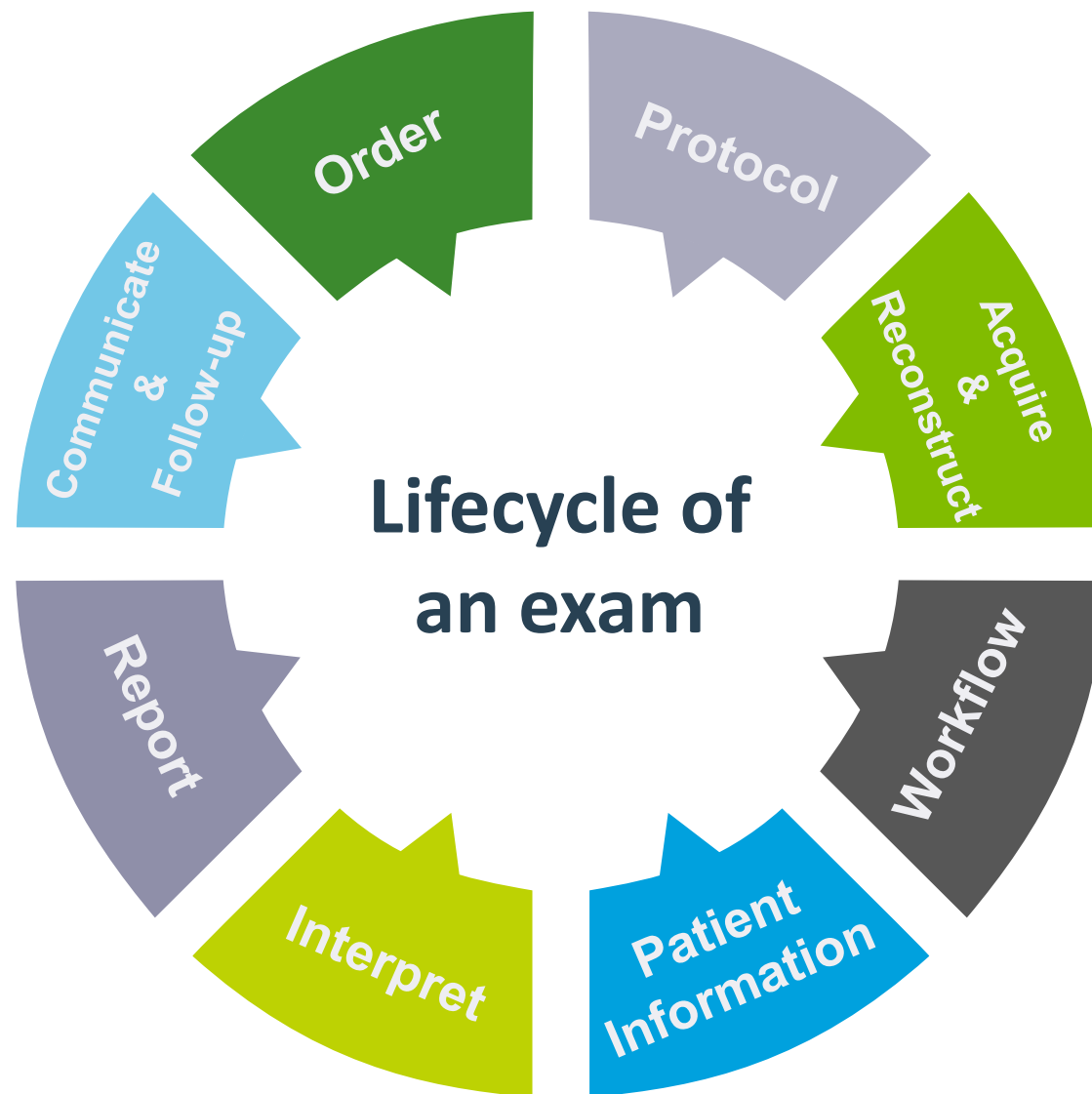
Nina Kottler MD, MS @RadKottler



DISCLOSURES

- No Financial Disclosures
- Partner (equity owner) at Radiology Partners
- Nuance Clinical Guidance Advisor





Improving Quality
Delivering Clinical Value
Transforming Radiology

Date: 13Nov 2012@0913

RADIOLOGIC EXAMINATION REPORT

Patient: XYZ
.....

HISTORY: Seizures and altered mental status

TECHNIQUE:
MR of the brain was performed using I contrast. No prior exams are available for comparison.

FINDINGS:
A left thalamic T1 hypointense lesion is seen. Rest of the brain is normal.

IMPRESSION:
1. LEFT THALAMIC HYPOINTENSE LESION.

Transcription Data/Time: 13 Nov 2012@0913

Our Product is Our Report



Improving Quality
Delivering Clinical Value
Transforming Radiology



VARIABILITY



Improving Quality
Delivering Clinical Value
Transforming Radiology

Standardize The Recommendation

Patient Age

- ≤ 18 yo
- > 18 yo and < 35 yo
- ≥ 35 yo
- locally invasive or abnl LNs
- heterogeneous, enlarged thyroid
- increase uptake on PET
- significant co-morbidities or limited life expectancy

Nodule Size

- any
- ≥ 1 cm
- ≥ 1.5 cm
- any
- any
- any
- any

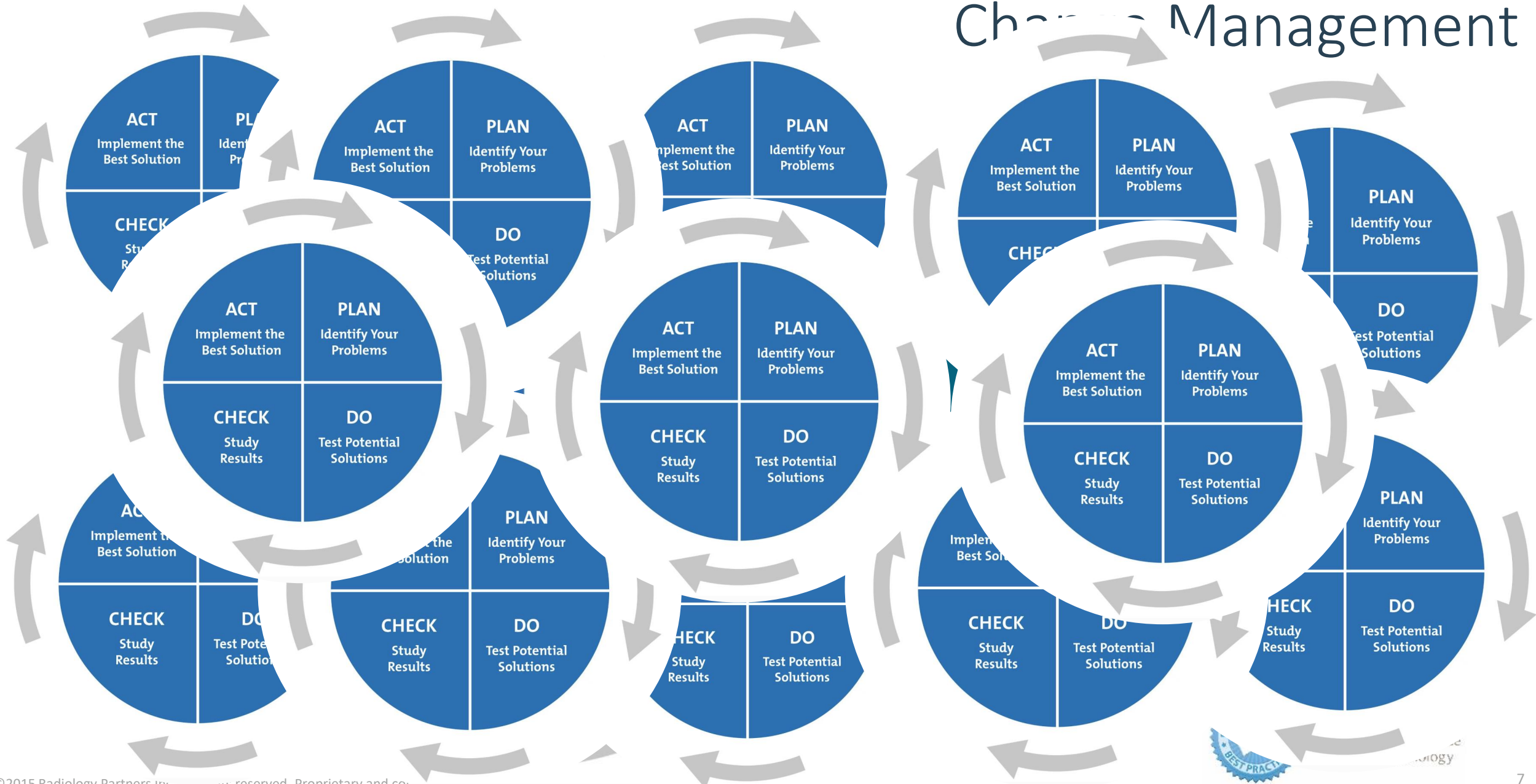
Best Practice

- Consider ultrasound
- Ultrasound
- Ultrasound
- Ultrasound
- Ultrasound
- Ultrasound and Recommend Biopsy
- No follow up (unless clinically warranted)



Improving Quality
Delivering Clinical Value
Transforming Radiology

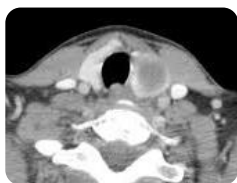
Change Management



recoMD

powered by **rp** radiology partners

On the Fly Radiologist BPR Guidance



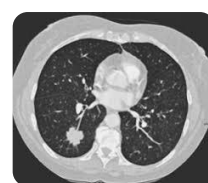
ITN



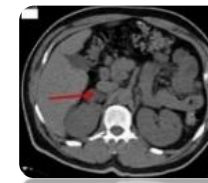
AAA



OVARIAN
CYSTS



LUNG
NODULES



ADRENAL
LESIONS

Billing Alerts



Improving Quality
Delivering Clinical Value
Transforming Radiology

recoMD User Interface

The user interface fits behind the voice rec window and provides the rad sufficient information to call the macros and make the correct recommendation

The screenshot displays the recoMD User Interface within a web browser. The top navigation bar shows the user 'Fred Body | 51M' and the current case '4.0 cm abdominal aortic aneurysm - MACRO: AAA 6'. The interface is divided into several sections:

- Toolbar:** Contains various actions such as 'Close', 'Wet Read', 'Draft', 'Correct', 'Reject', 'Prelim', 'Sign', 'Normal', 'Discard', and 'PACS'.
- Left Panel:** A sidebar with a 'Fields (4)' list containing 'technique', 'None.', 'Findings', and 'Impression'. Below this are buttons for 'Enter Findings Mode', 'Properties', 'Fields (4)', 'Notes', and 'Attachments'.
- Main Text Area:** Displays the report content for 'Report - CIRPA, Thomas - 3USH'. The 'Impression' section contains the text: 'This exam was performed according to our departmental dose-optimization program which includes use of Automated Exposure Control, adjustment of the mA and/or kV according to patient size and/or use of iterative reconstruction technique.' Below this are sections for 'COMPARISON: [None]' and 'FINDINGS: [There is a 4.0 cm abdominal aortic aneurysm.]'.

Agree and Disagree with recoMD

Disagree with recommendation

Copy the recommendation (marks as agreed)

Copy all recommendations

“Blackbox” information



Does recoMD Improve Performance?

Best Practice Program	6 month Average
Incidental Thyroid Nodule	54%
Simple Ovarian Cysts	75%
Abdominal Aortic Aneurysms	61%



Does recoMD Improve Documentation?

Billing Alert Name	Volume Pre-recoMD
MIPS 436 – Radiation Consideration for Adult CT	689
No signs / symptoms or diagnosis documented	850
MIPS 145 – Exposure time and Images Reported for Procedures using Fluoroscopy	248
Missing MIPS / 3D Recons for CTA	95



Improving Quality
Delivering Clinical Value
Transforming Radiology

Summary

- Multiple steps of imaging lifecycle that can be optimized ... only one is Image Interpretation
- AI has the opportunity to provide a large ROI for non-Imaging applications
- AI can be used to assist the Radiologist in reporting by initiating the workflow and providing guidance
 - Decreases variability in recommendations
 - Improves billing compliance





Thank you!