Integrating AI Into the Lung Health Workflow

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Disclosures

• Accumetra, LLC shareholder
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Generative AI
Generative AI Gone Wrong

Salmon Swimming Down River
More Seriously...

Bottom line: AI Can Make Shockingly Bad Mistakes. So We Need To Be Very Careful How We Deploy In Mission Critical Situations.
Can generating synthetic medical images be the next big trend in healthcare AI? Imagine the patient having to go through a single body scan, while the software takes care of generating images in different modalities. This might be still far away, but early signs of success are already here.

- Philips has recently gained FDA clearance for MRCAT, an application for generating synthetic CT images from MR scans, allowing physicians to plan radiotherapy in soft tissue tumors of the head and neck using one modality.
- A similar software is BoneMRI by MRIguidance, which also uses MR scans to reconstruct CT-like images of the spine and pelvis, allowing for accurate diagnosis of bone lesions without radiation.

Do you know of any similar products? And which modalities do you think are next?
Artificial Intelligence For CT Lung Cancer Screening

Traditional Role: 2nd Reader, Place Lung Nodule Detection Markers on CT Images
VAPALS-ELCAP / ScreeningPLUS

- Nurse Navigator
- CT Technologist
- CT Scanner
- Acquisition Protocol
- Diagnostic Radiologist
- Interventional Radiologist
- Surgeon
- Pulmonologist
- Pathologist
- Radiation Oncologist
- Oncologist
- Teaching Files
- + AI
- EHR
- PACS

“Patient Memory”

Running At The Phoenix VAMC & Nashville VAMC
CT Evaluation Form
CT Evaluation Form

Structured Report Form Is Auto Filled In By Siemens Al-Rad Companion

Automated Radiology Report

Editable Report That Is Automatically Sent To The EHR and PACS Via HL7
Precision Follow-up Time
AI Observations After 22 Years

• CT Lung Nodule CAD/AI Is Growing In Acceptance And Use
• A “Shocking” Failure is the Achilles Heal of Mission Critical AI
• AI In Support of Radiologists Is The Best Approach
• Lack Of Large High Quality Databases Remains A Major Challenge
• There are Serious Ethical Concerns Regarding Training Databases
• Integration With The Clinical Workflow (EHR, PACS) Is Critical
Questions For The Panel

1. How successful has AI been in improving detection of early lung cancer in the community hospital setting?

2. What barriers remain in adoption and is anything needed to achieve wider success?

3. What are the best opportunities to add AI into the CT lung screening clinical workflow?
   - Improve productivity
   - Improve detection accuracy
   - Improve risk assessment
   - Improve malignancy characterization
   - Facilitate communication across caregivers
Thank You