



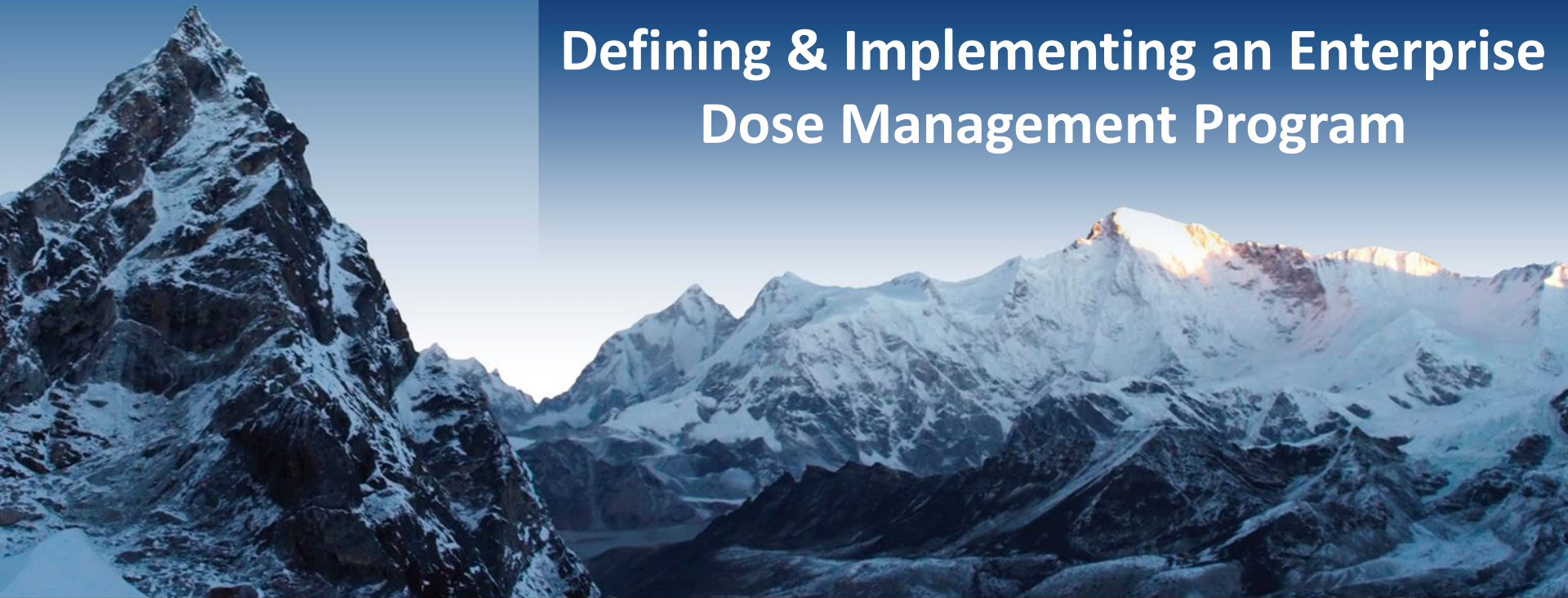
ASCENDIAN[®]
HEALTHCARE CONSULTING

Shawn McKenzie
May 2014

**AHRA
Northwest**

Radiation Dose Safety Program

**Defining & Implementing an Enterprise
Dose Management Program**



Topics for Discussion



DRIVING DOSE SAFETY








- Dose: History and Sense of Urgency
- Regulatory and Compliance
- Radiation Safety Program Components
- Industry Trends
- Strategic Program Deployment
- Questions & Discussion



Ascendian Healthcare Consulting, Inc.



Ascendian Healthcare Consulting specializes in the field of HIT and enterprise medical imaging. Ascendian consultants bring clinical, technical and operational expertise gained by emergence in the industry to our clients:

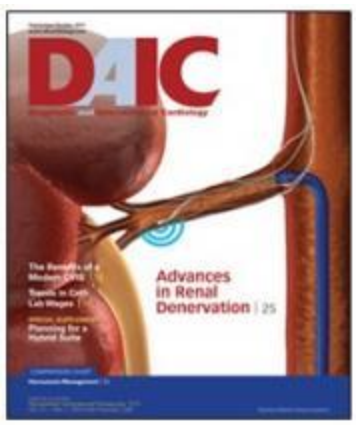
-  Enterprise Medical Imaging Strategies
-  Enterprise Interoperability Platforms (VNA, ECM, Viewers)
-  Enterprise Radiation Dose Safety Program
-  Cardiovascular Information Systems (CVIS)
-  Health Information Exchange Development





Ascendian Thought Leadership

Ascendian is a nationally recognized healthcare thought leader and frequently published in healthcare industry magazines and e-zines:





Ascendian Clients (the short list)

Ascendian's consultants combine the subject matter, analytical, managerial, and technological expertise derived from a lifetime of clinical and IT healthcare experience across hundreds of the top US hospitals and health systems...representative of some of our current clients:



Dose: History and Sense of Urgency



The year 2008...

Mad River Community Hospital

- 1 patient (Age- 23 months)
- 151 brain scans in 65 minutes
- CA-DPH fined \$25,000
- One scan - 50 to 80mGy (CTDi)



= 7,550 – 12,080 mGy





The year 2008/09...

Cedar Sinai Hospital

- 206 Patients
- 18 Months Duration
- CT Brain Perfusion Scans
- One scan Protocol = **300 to 600 mGy (CTDI)**
- Device and Human Issue





The Media Vortex and Public Awareness



+



= 7 mSv

OR

1,400
dental
X-rays

240
five-hour
flights

70,000
back-
scatter
airport
scans

19 years
of smoking
a pack of
cigarettes
per day

Regulatory and Compliance



State Legislatures

- California and Texas (Connecticut)

The Joint Commission

- 2014 Diagnostic Imaging Standards

House of Representative 4302 (SGR)

- Incentives for Dose Management Program (NEMA Scanners)

American College of Radiology

- CTDI and DLP Recommendations
- CTDI and DLP Case Study (Not a great measurement)
- National Radiology Data Registry (Are you ready to submit)



Current Active Legislation



California

- Main focus on CT dose management
- Incident reporting and management
- Dictating dose values in final report
- Took effect July 1, 2012

Texas

- CT and Fluoro dose management
- Establish dose threshold for CT and Fluoro
- Radiation Safety Committee and Program
- Took effect May 1, 2013

Connecticut (considered but not applied...yet!)

- CT and Rad Therapy
- Awaiting hearing in CT House



Joint Commission Work Plan



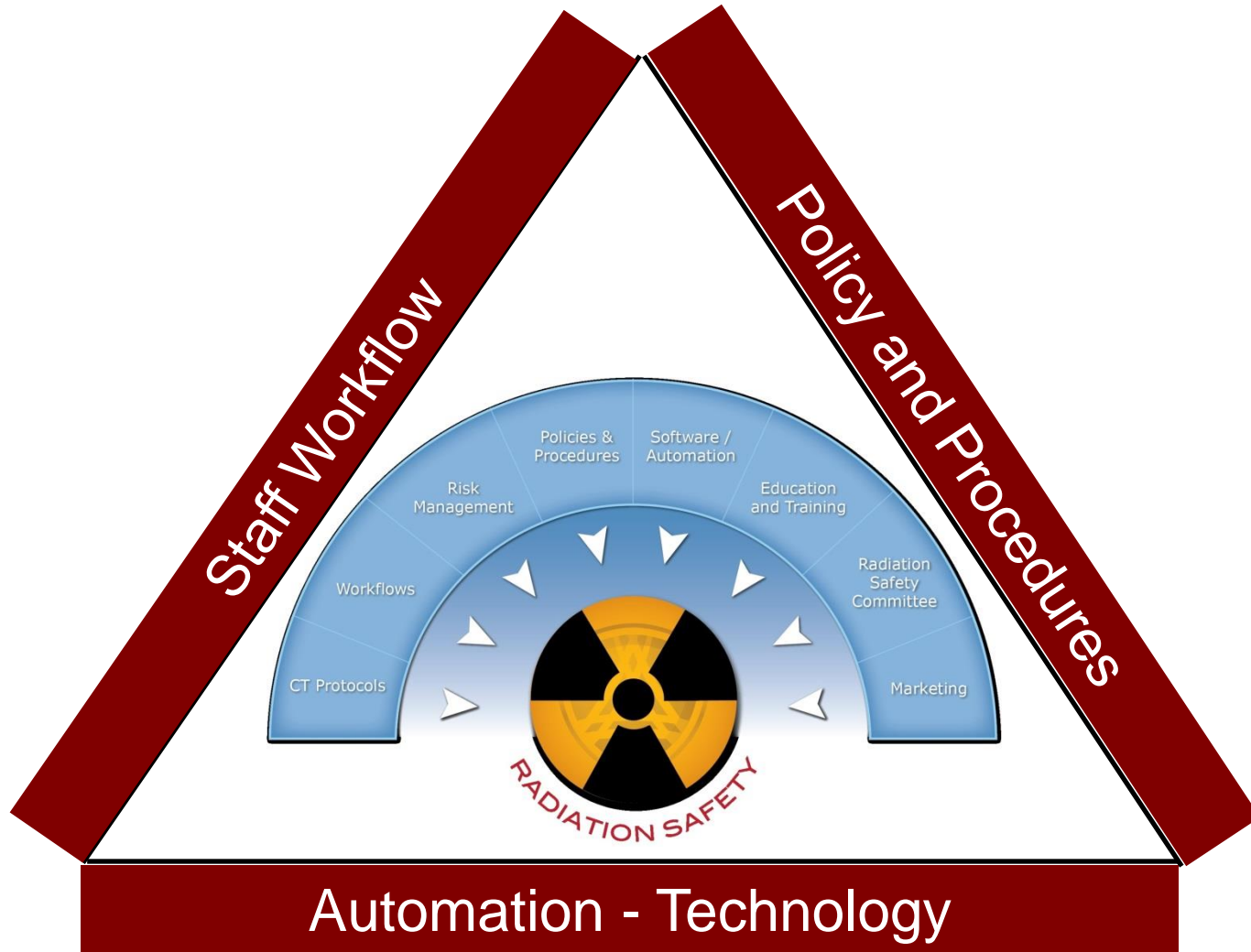
Joint Commission Accreditation Healthcare Org.

➤ 2014 standards released

- Technologist's must be certified by July 1, 2015
- Annual performance evaluations of imaging equipment by a medical physicist
- Documentation of CT radiation dose in the patient's clinical record
- Considering patient size when establishing imaging protocols
- Management of safety risks in the MRI environment
- Collection of data on incidents where pre-identified radiation dose limits have been exceeded



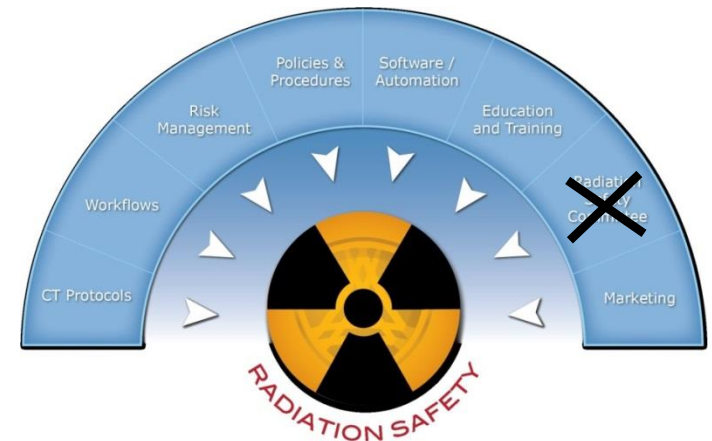
Radiation Safety Program Components



Your New Radiation Safety Committee



- **Include organization's key stakeholders**
- **Advocates of organization's radiation safety objective**
- **Committee drives the successful development and implementation of patient radiation safety program**
 - C-suite sponsorship
 - Risk Department Resource
 - Information Technology Resource
 - Radiology Staff including Radiologist/s
 - Medical Health Physicist



Radiology or Enterprise?



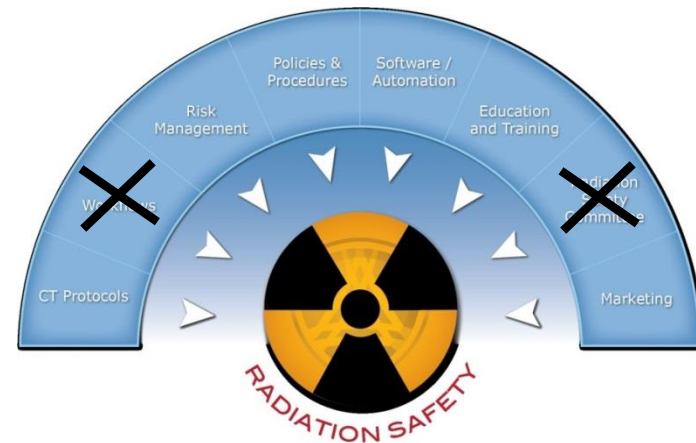
- Take the lead...
- Embrace Cardiology
- Bring IT along for the ride



Clinical and Technical Workflow



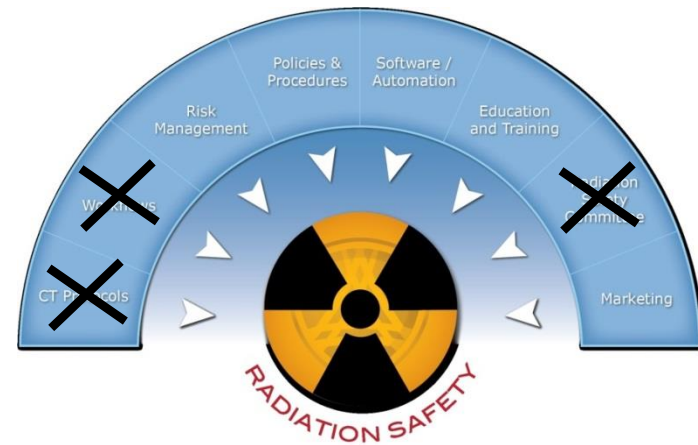
- **Complete a full current state and gap analysis**
 - Clinical and technical workflows
- **Adoption of radiation dose tracking software**
 - Pre-exam, post exam (learn to utilize reports for operations)
- **Design future state workflow/technology and decision support prior to the study**





➤ Evaluate imaging protocols

- Are they standardized throughout the enterprise?
- Updated to meet ACR/AAPM recommendations
- Implement CT radiation dose thresholds based on good image quality and delivering the lowest dose to patient
- CT device evaluation per vendor



Automated Dose Management Solutions



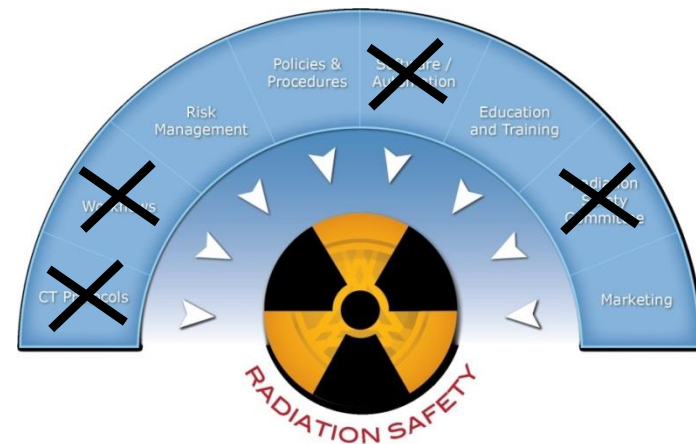
What to Look For in a Solution

➤ System Integration

- Inbound and outbound information transfer
- Integration with existing technology

➤ Patient Dose Management

- Aggregate dose management
- Dose values and types
- Dose management reports
- Proactive dose notification capabilities



RFP CRITICAL DECISION



Automated Dose Management Solutions



Leading vendors in the market:

➤ Dose Track - Sectra



➤ eXposure - Bayer Health (radimetrics)



➤ DoseMonitor - PACSHealth



➤ DoseWatch - GE Healthcare



➤ Imalogix - Imalogix



Adjusting Policies and Procedures

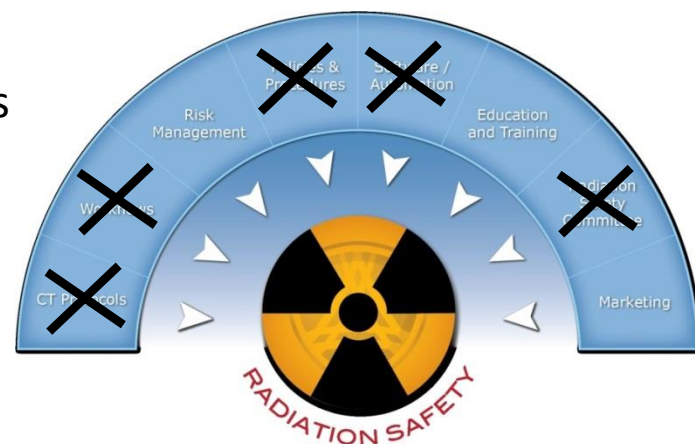


➤ Imperative to develop defined roles and responsibilities

- Along the entire pathway from order to outcome
- Governance policies and pathways
- What is the **NEW** role of the radiologist

➤ Processes requiring attention

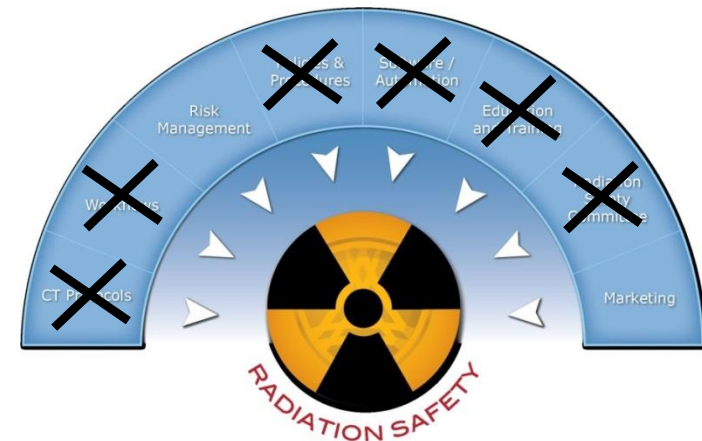
- Image low dose protocol standards
- Maximum low dose with image quality (Lock them up)
- Dose thresholds (corporate tolerance)
- Physician and patient communication
- Tracking and reporting events of dose exposures regulation (state or federal)
- Collaboration between departments



Communication – Education & Training



- **Create an internal and external communication plan**
 - To the patients and family
 - To the ordering clinician
 - To the media
- **Train staff to answer questions from patients and family**
 - What will my exposure be?
 - Am I safe having this procedure?
- **Ensure staff understand the components of the program**



Risk Management



- **Ensure all patient incidents are properly addressed and in a timely and complete manner**
 - Dose incident management
 - Determination of retrospective analysis
 - Managing preparation for Joint Commission



Market your Activity to the Community



➤ Create a proactive marketing plan

- To the patients and family
- To the ordering clinician
- To the media

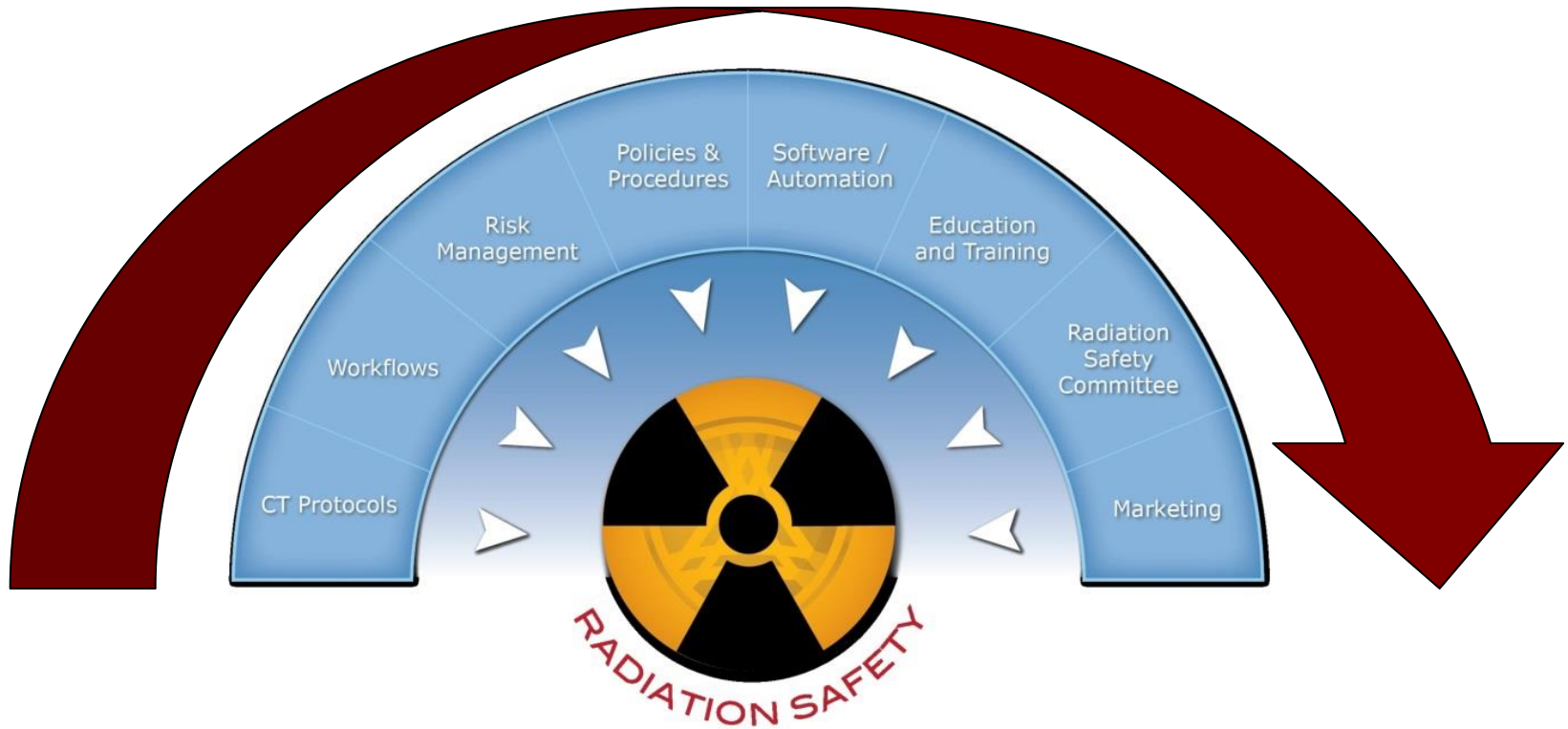
➤ Raise your flag

➤ Make it part of your brand

- Every website every publication
- Make it a cultural norm



If Asked...



Can you explain your current program end to end?

Can you define the gaps?

Who cares... Does it really matter?



Industry Trends/Mistakes



➤ Automated Solution Implementation

- Automation Manages The Entire Dose Program

➤ Lack of Education Plan

- Role Based Levels of Education Required
- Ordering Physician Communication
- Patient Communication (Huh?)

➤ Informed Decision Support

- Not providing CTDI and DLP Integration to EHR/EMR Systems
- No Discussions with Radiologists about the consultative need

➤ Marketing

- Not Doing Community Outreach and Program Leverage your Efforts

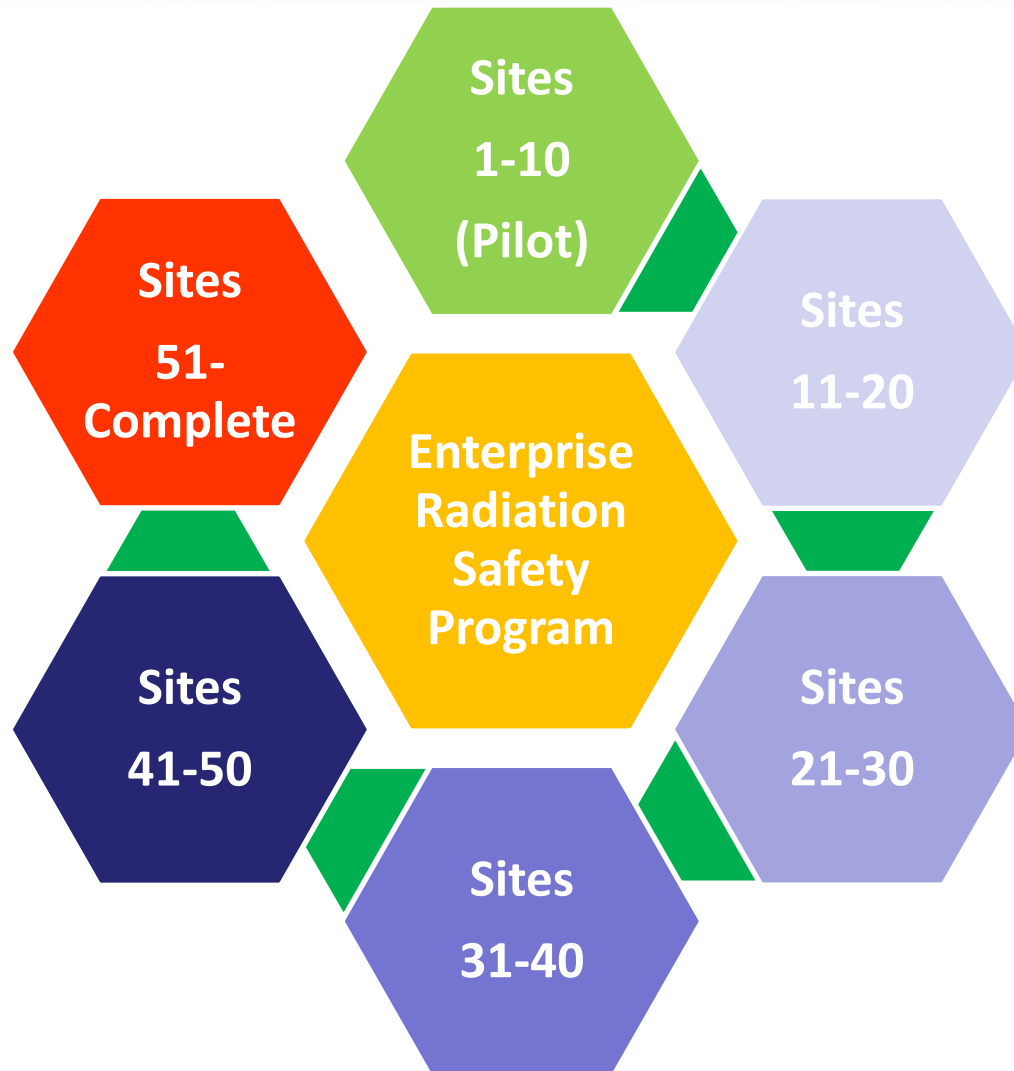


What is Missing?

- **Pediatric Dose Management Guidelines**
- **Inclusion of Other Modalities (CR/DR, MG, etc.)**
- **Importance of “Effective Dose” Values**
- **Contrast Dose** (Vendors get it but regulatory doesn't)



Strategic Program Deployment



Act or React



Step into the spotlight before the spotlight finds you!



Contact Information



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