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Disclosures

Conflict of interest: CommuniHealth.



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Application of Best Practices from High Reliability Organizations to Advance Overall Wellness of Providers

Description of the workshop:

The goal of this workshop is to improve overall wellness of providers through application of formal human factors and barriers management principles to improve patient safety and care delivery processes.

Learning objectives:

- To develop care delivery processes using barriers management principles, which are defined as the associated process steps, safeguards, and safety barriers.
- Apply human factors engineering and Lean thinking for problem solving to spearhead continuous quality improvement efforts.



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Personal Motivation



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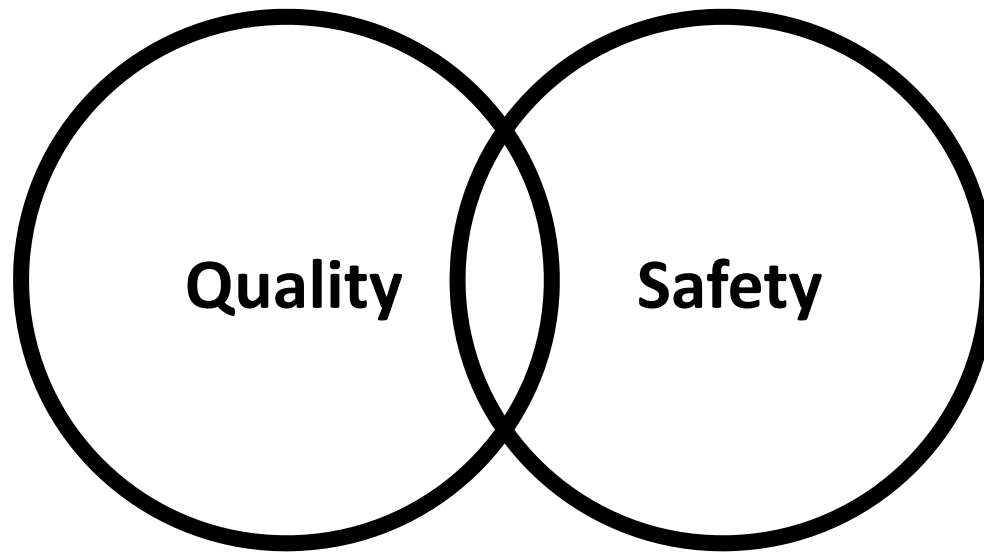
Quality

Safety



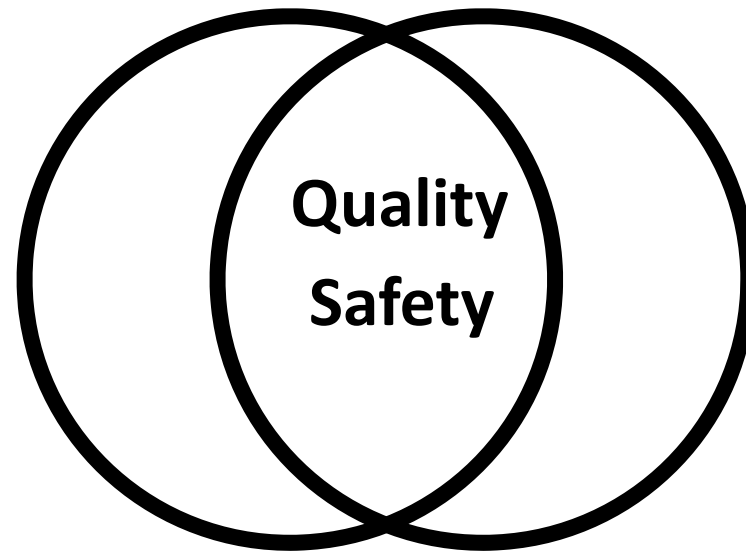
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Time-line & Interactions with Computers

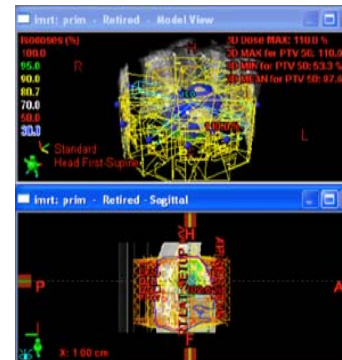
Consultation



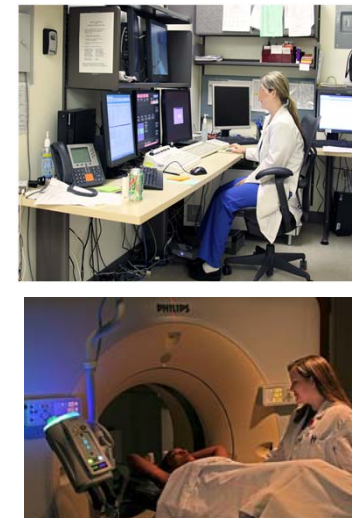
Planning



Physics QA



Treatment



Iterations &
Handoffs
IMRT case:
200+ steps,
many hand-offs



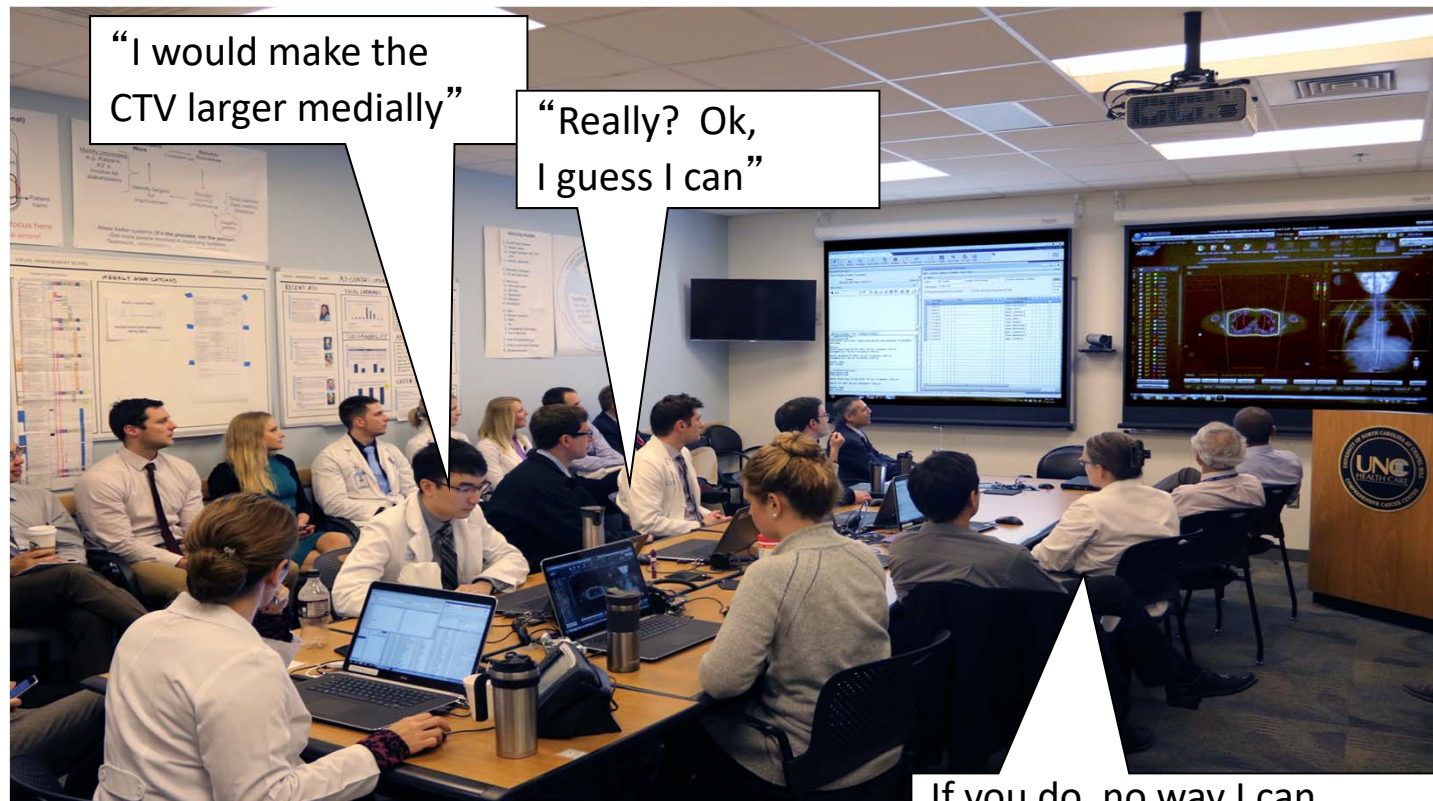
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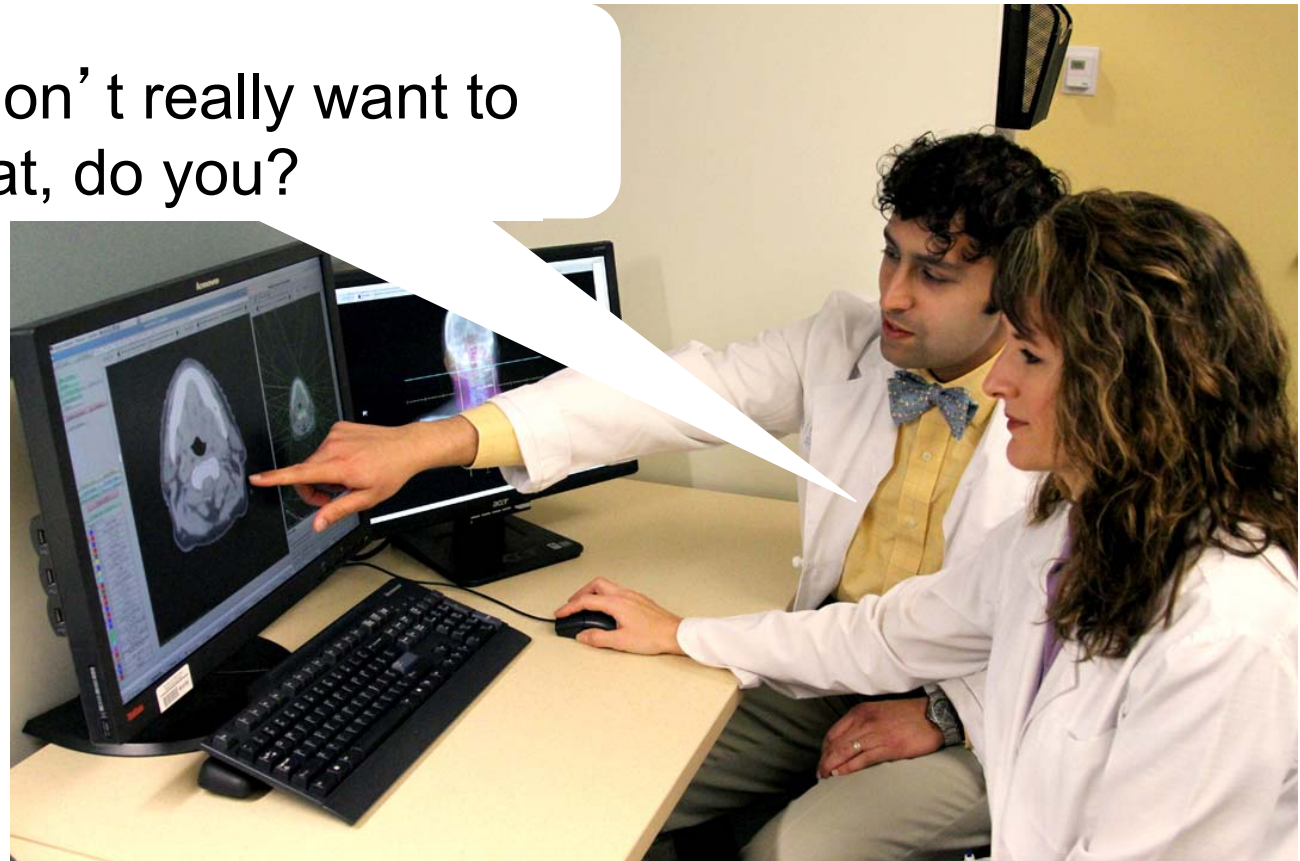
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You don't really want to
do that, do you?



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Eiji Toyoda, Promoter of the Toyota Way and Engineer of Its Growth, Dies at 100



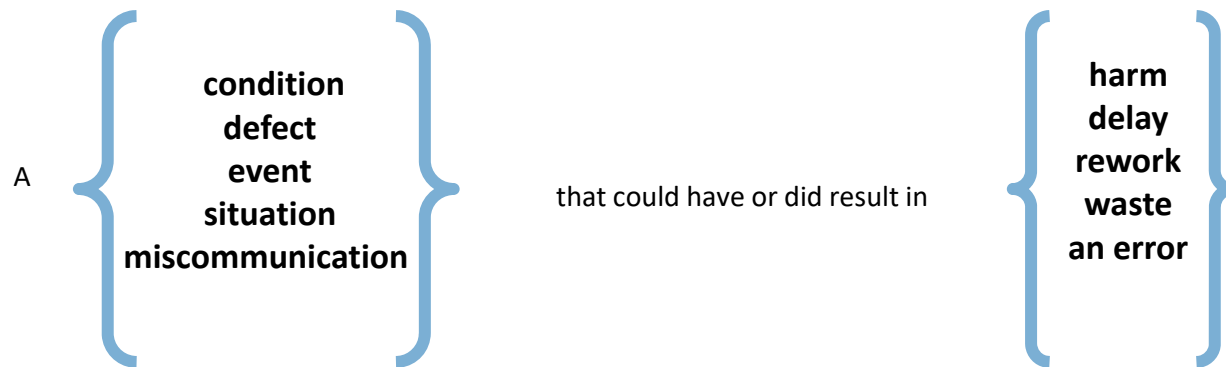
≈ “Japanese workers use their brains and hands providing 1.5 million suggestions a year, and 95 percent of them are put to practical use. There is an almost tangible concern for improvement in the air at Toyota”



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Good Catch Program



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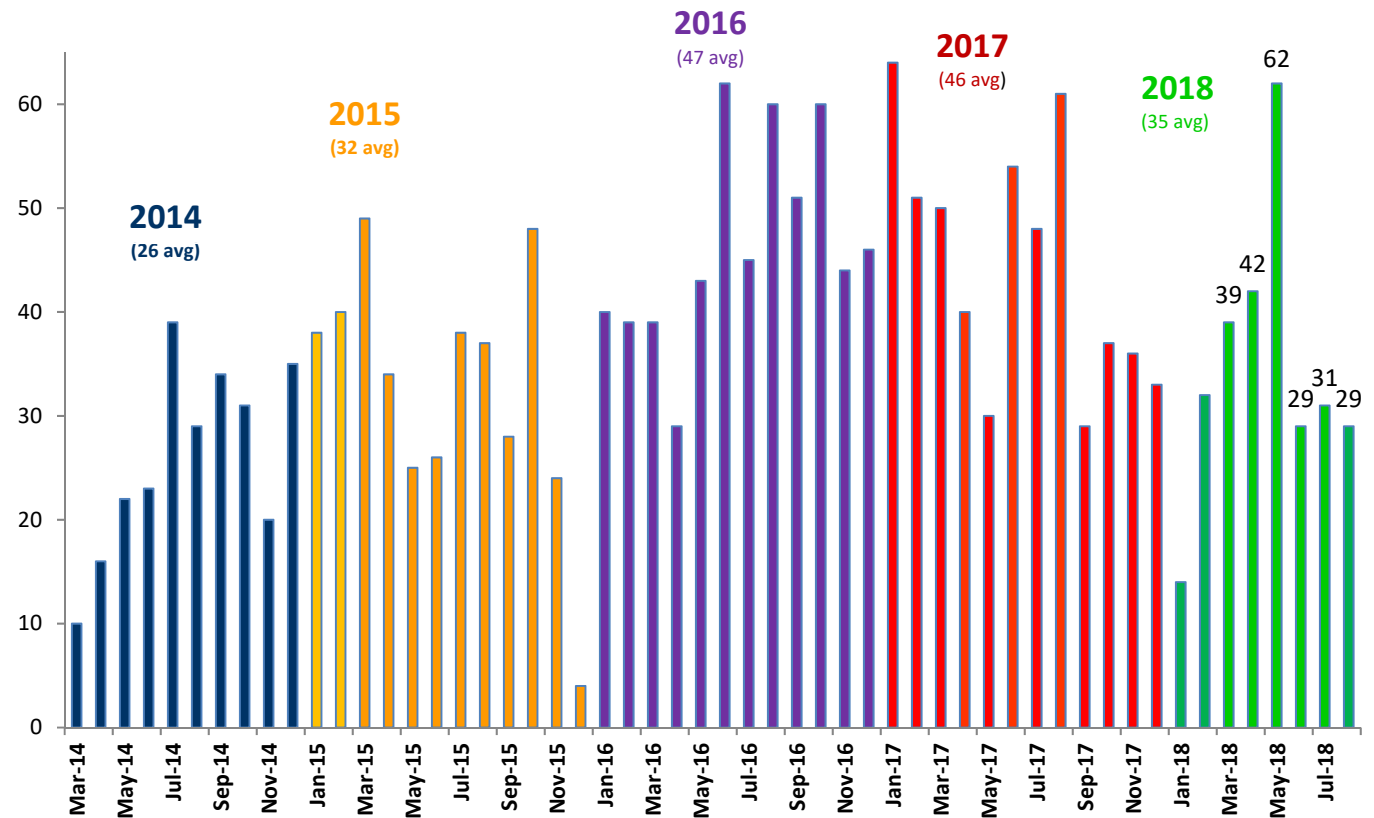
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Total Monthly Good Catches



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Barrier Analysis & Management

GoodCatch	Pre-visit	Pt Assessment	Imaging for RT Planning	Treatment Planning	Pretreatment review and verification	Treatment delivery	On-Tx quality management
	Tripped Caught	0 Tripped Caught	0 Tripped Caught	0 Tripped Caught	7 Tripped Caught	1 Tripped Caught	3 Tripped Caught
G1198							
G1385							
G1310							
G1404			No sim field created (where SSN added, caught at DOS)				
G1425			Site/setup note absent, caught at machine				
G1449			Site setup note absent, caught at QA day				
G1499					SSN ≠ RS: shifts		
G1685			No sim field created for 2nd scan (DIBH) (where SSN added, caught at DOS)				
G1783					SSN indicates shifts, shifts not doc. elsewhere		
G1800			No sim field created (where SSN added, caught at DOS)				
G1938					Conflicting SSNs: shifts		
G1943					SSN changed, not comm. to DOS to update beam names		
G1972					SSN ≠ Clinical Tx Plan: conflicting bolus info, MD changed mind		
G1983					SSN ≠ Tx77, sim note, note on Pts schedule: conflicting bladder info		
G1996					SSN ≠ Sim Directive: bladder info		
G2054					SSN ≠ Headcast notes		
G2081					SSN ≠ Sim Directive: bladder info		



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ImprovementFlow

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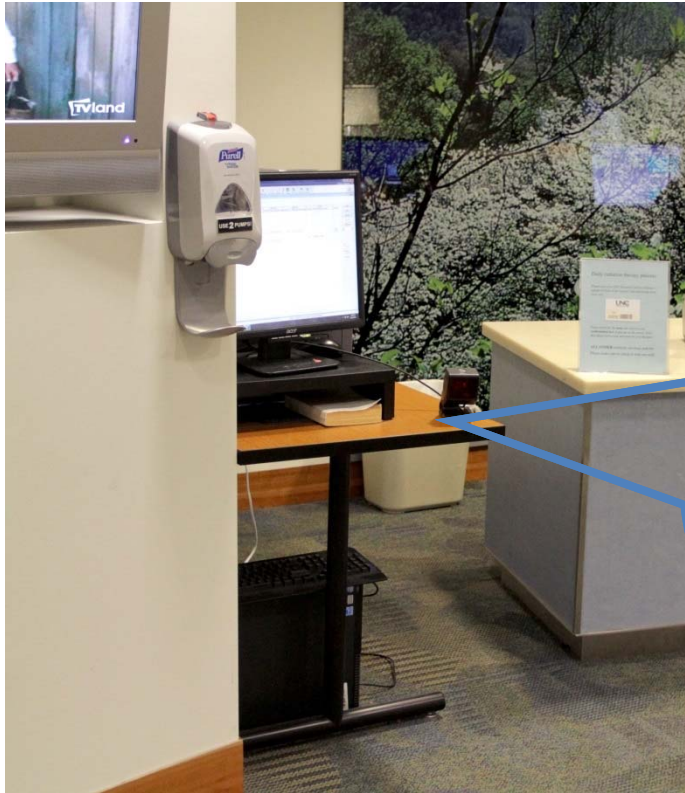
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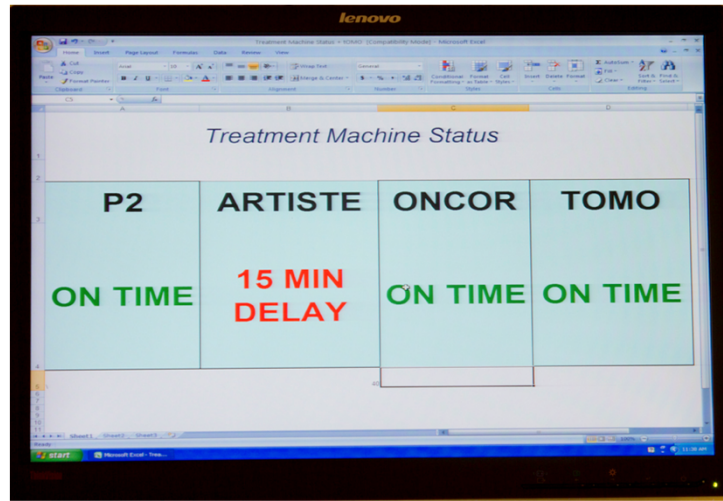
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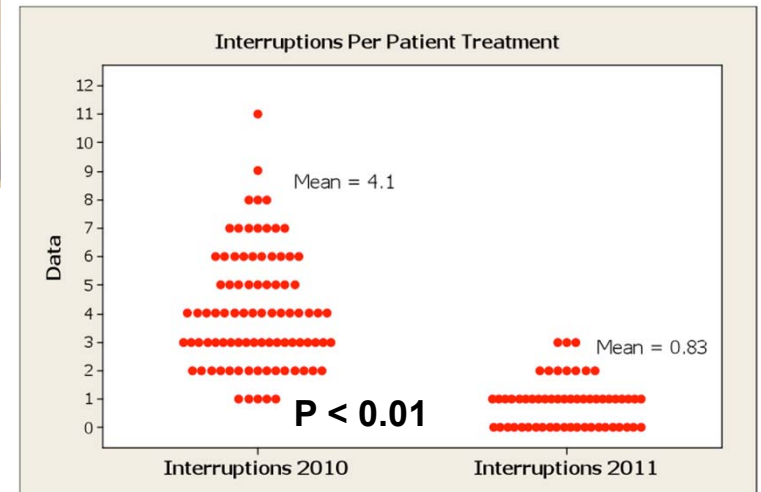
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**A change in
the physical
workplace
reduced
interruptions
on the
treatment
machine**



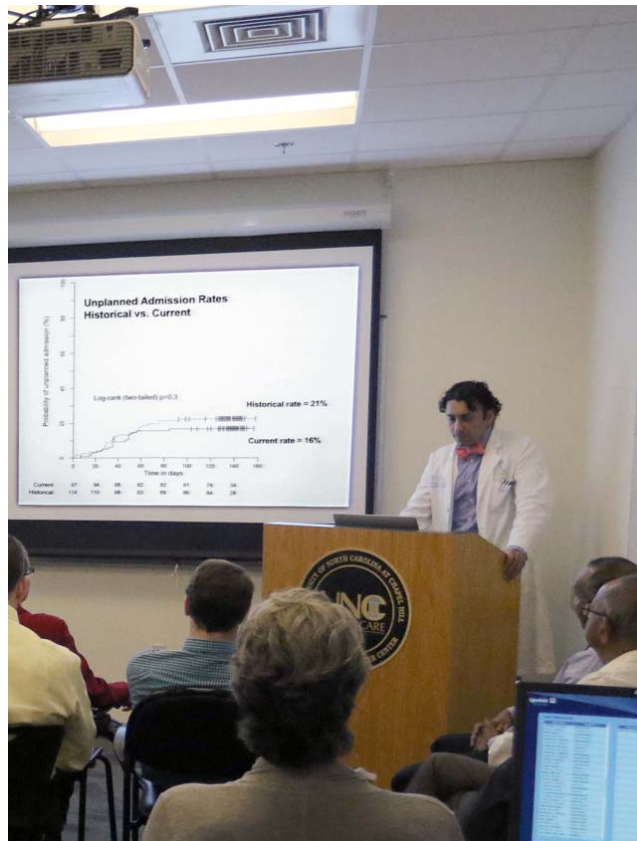
*Chera et al,
Seminars Rad
Oncol 2013*



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Monthly QA Meetings



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To deliver on human reliability, you must...

1. Have leadership commitment, from the highest levels.
2. Understand the scope of factors that influence **human performance**.
3. Attend to all three pillars:
 - Safety & Culture
 - Fitness & Competence
 - **Work System Design**
4. If you don't you are setting people up **to fail (burnout)**.
5. Leadership, culture and behavioral solutions cannot overcome **human nature**.
6. Don't ignore the 'hard truths' of work system design and human performance.
7. Be clear and realistic about what you expect.
8. Deliver on your **commitments**.

*Ron McLeod,
UNC workshop 2018*



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Worksheet- Mapping Your Process

Process Step Description	Ownership	Specific	Auditable	Organizational (all 3 checked) vs. Operational	Elements: - Human - Technology

Ron McLeod,
UNC workshop 2018



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Process steps – how to write them?

A **step** contains cohesive actions with a **single** goal.

- i. How the goal is accomplished can have multiple parts.

Use following form: PEOPLE VERB details [HOW]

- i. Example: MD reviews medication history using EHR

Examples of possible **verbs**:

- Enters - writes, types, speaks, marks
- Checks/Reviews/Compares - check consistency between two sources (in conjunction w/ system, can automate a checklist)
- Verifies - checks with an authority (calls the MD, asks the patient)
- Authorizes/Approves - gives permission
- Assesses - evaluates the state of the patient
- Completes – finishes a previous step



Definitions for controls

- *Ownership*: Is someone clearly responsible for the process step ?
- *Specific*: Is there standard work for the process step?
- *Auditable*: Is the process step auditable to confirm it is working as expected? Is the process step being audited on the regular basis?



Process Step Description	Ownership	Specific	Auditable	Safeguard vs. 'Key' Safeguard (all 'Y')	Elements: - Human - Technology
Administrative assistant <u>collects</u> patient information at registration	Y	N	Y	Step	
Nurse <u>collects</u> information on current and past medications	Y	N	Y	Step	
Nurse <u>checks</u> vital signs	Y	N	Y	Safeguard	- Nurse
Nurse <u>checks</u> for possible allergy-drug interactions	Y	Y	Y	Key Safeguard	- Nurse and EHR
...MD orders laboratory tests	Y	N	Y	Step	



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Exercise:

Develop Your Process Map



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30