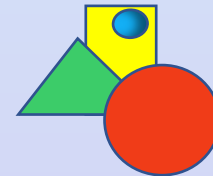


“.....safety is a continually emerging property of a dynamic system”

Adi Paterson
Siyeva Consulting



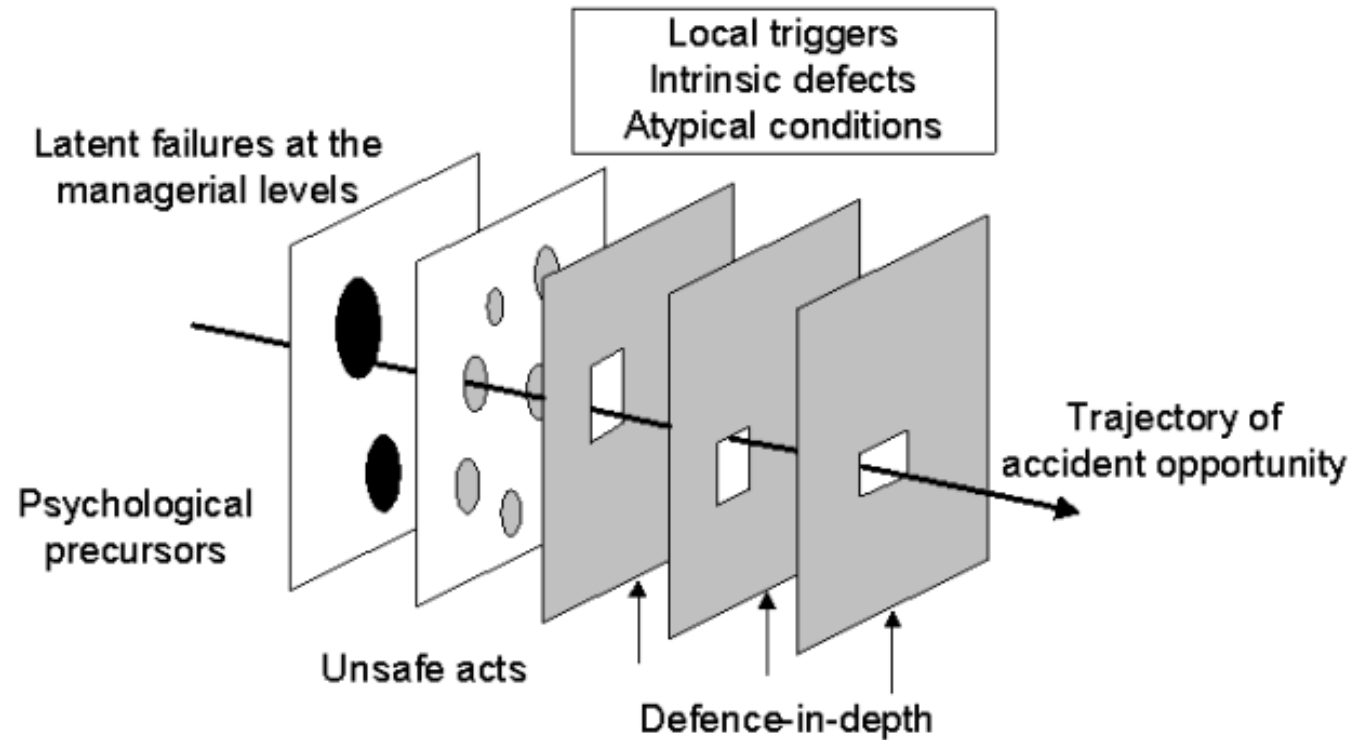
adi.paterson@siyeva.com

Safety: The Continuous Paradigm

“if you’re committed to safety, you are committed to a never-ending battle to find, mitigate, and intercept risks, and then find new risks and mitigate and intercept those. Anyone that started working on [patient] safety thinking it was going to start and then be over just had it wrong.”

Don Berwick: IHI 2016

James
Reason
1992: Swiss
Cheese



Boundary
Conditions:

The Linear-No-
Threshold Model
(Dose Response
Curve)

Herman Muller: Nobel Prize – work on
mutagenesis (1946) Nobel Lecture
“there is no threshold dose.....”

VS

Edward J. Calabrese

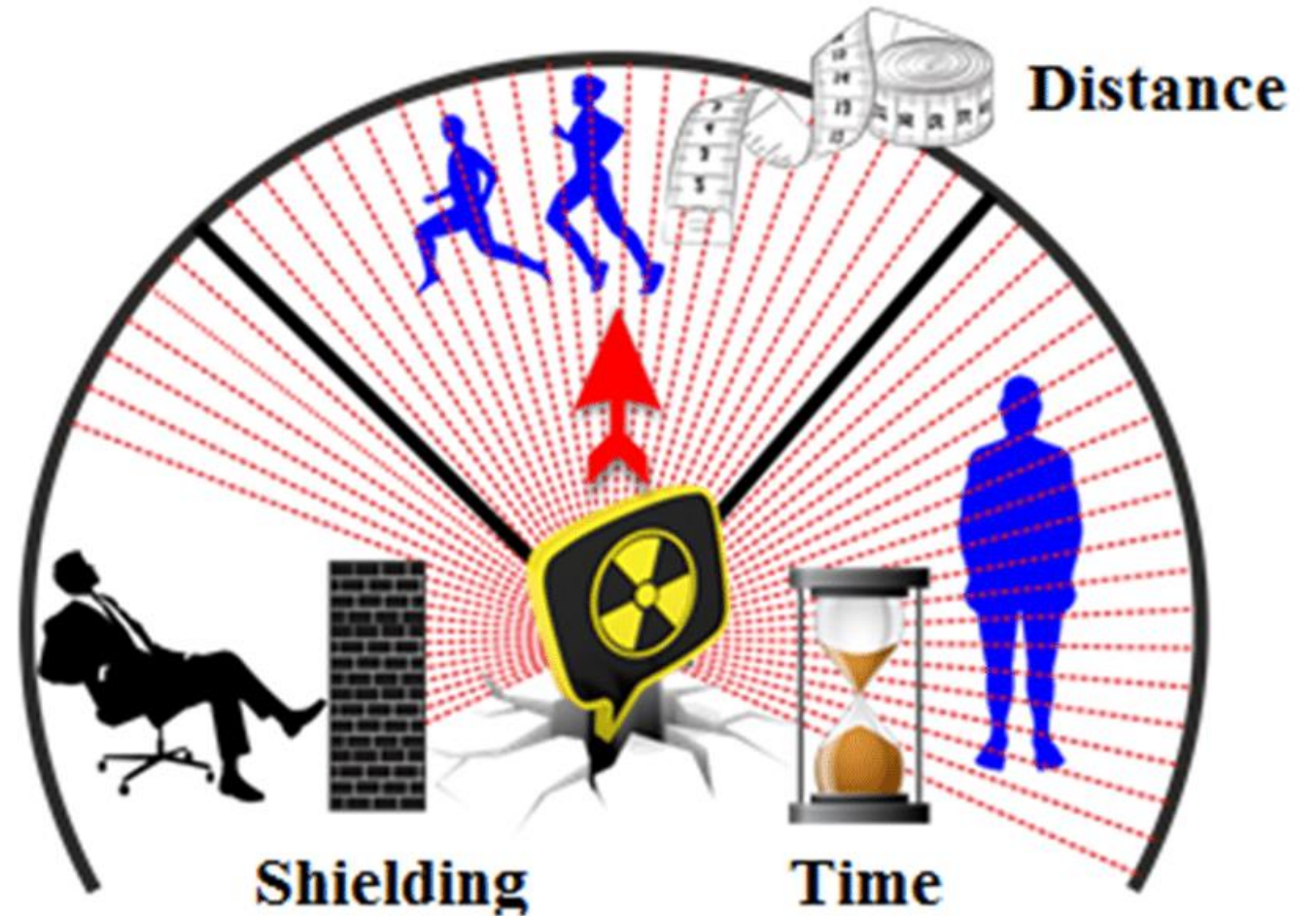
*The linear No-Threshold (LNT) dose
response model: A comprehensive
assessment of its historical and scientific
foundations (2019)*

.....**does it really matter**

Our Construct?: “Radiation Protection”

- Time
- Distance
- Shielding
- Containment

- Elimination
- Automation
-



Big Moments



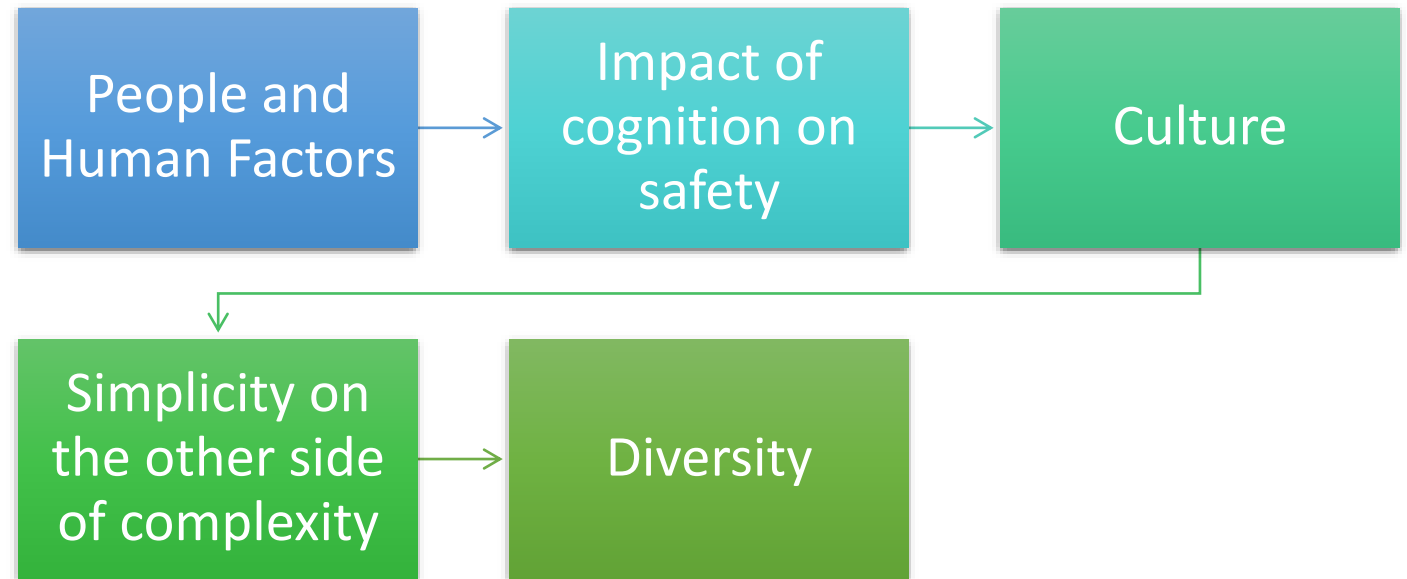
Revolutions in Radiation Practice

Nuclear Medicine
Therapeutics and Accelerators

GEN-IV and (Laser) Fusion

Integration and Automation

What is Missing?



Lessons Learned from the TMI Accident -1980

Questioning attitude

Conservative decision making when dealing with uncertainties

Attention to detail – what is needed and missing

Intolerance for things that are not right

Reluctance to proceed with abnormal, incomplete or inoperable items

Sense of urgency for issue resolution and closure

'Teamwork' vs. 'Not my job' attitude

No dependence on QA by line management

Candor and completeness in all communications

Nuclear Safety and Regulation

Regulation has a political context

Regulation (internal or external) does not reduce some risks

Regulatory best practice does exist

The CEO is responsible and accountable – always

Many management interfaces increase risk

Documentation, practice and risk

Experts must be assigned to operations teams (30-40%)

Management “Ideas” that Work

Owning Space

Drafter,
Reviewer and
Owner

Everyone can
stop work

People in the
work place make
the place work



Radiation Protection in 2050

The Continuous Paradigm for Safety

“if you’re committed to safety, you are committed to a never-ending battle to find, mitigate, and intercept risks, and then find new risks and mitigate and intercept those.

Anyone that started working on [patient] safety thinking it was going to start and then be over just had it wrong.”

Don Berwick: IHI 2016

Time For A Conversation



CHALLENGE



THOUGHTS



QUESTIONS

Thank You



SAFETY IS AN INCLUSIVE AND
EMERGENT HUMAN CONSTRUCT



SUSTAINABLE SOCIAL AND
ECONOMIC BENEFITS ENDURE BY
ELIMINATING HARM

