

## Training individuals to use voluntary reporting systems

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## Conflict of Interest

- **Sasa Mutic:**
  - Partner - AQUISI, LLC ([aquisi.org](http://aquisi.org))
  - Grant on patient safety - Varian Medical Systems



## Learning Objectives

1. Describe different approaches to incident learning systems
2. Describe training objectives for different members of RT team
3. Describe continuing education needs for sustainability of reporting culture



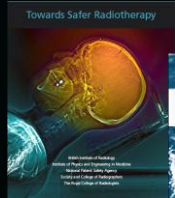
## Outline

- Introduction
- Statutory and voluntary reporting
- Institutional approaches to event reporting
- Training for:
  - Initial reporters
  - Supervisors
  - Process improvement committee
  - Administration

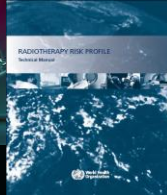


## Background Global Problem

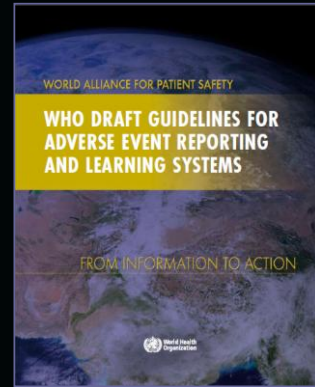
- "...it calls into question the integrity of hospital systems and their ability to pick up errors and the capability to make sustainable changes."
- **Sir Liam Donaldson, Chief Medical Officer, Department of Health**



Towards Safer Radiotherapy. London: The Royal College of Radiologists, 2008.



Radiotherapy Risk Profile. Geneva: World Health Organization, 2009.



## Event Reporting

- **Mandatory (statutory)**
  - Reporting required by law
  - NRC and certain states in U.S.
  - Well defined *treatment delivery errors*
  - Near-miss reporting typically not included
- **Voluntary**
  - Mainly at institutional level
  - Some states in the U.S. have voluntary reporting systems – utility for RT unclear
  - A spectrum of issues tracked

## Statutory Reporting

- Largely independent of culture – motivated by law
- Training well defined and mandated
- Support resources mandated
- Standardized approach

## Voluntary Reporting Dependent on Many Factors

- Culture
- Reporting guidelines
- Reporting system
- Competence to interpret reported data
- Commitment to improvement
- Feedback and benefits to the reporting community

## Voluntary Reporting Training Requirements

- The role of reporting in enhancing patient safety
- General Safety Training
  - WHO Guidelines
  - Cooke, D.L., et al., *A Reference guide for learning from incidents in radiation treatment, in Initiative Series*. 2006
  - Reason, J., *Managing the risks of organizational accidents*. 1997
    - » Safety culture
      - Reporting culture
      - Just culture

## Voluntary Reporting Training Requirements

- Institutional culture training and reinforcement
  - What are our collective beliefs
  - Reporting and safety culture
  - Consequences to me
  - Consequences to my coworkers
  - How is data used
- Components of reporting system
  - What, how, who, when, where,...

## Radiation oncology safety survey

- Multi-institutional\*, IRB-approved
  - SurveyMonkey®, anonymous, Dec-Jan 2011
    - Reporting patterns
    - Barriers to reporting
    - Perceptions about reporting
    - Reporting culture
- Overall response rate: 76%

\*Johns Hopkins, Washington University, University of Miami, North Shore-Long Island Jewish Hospital

## Error reporting:

- It's my responsibility ..... 96%
- I know how to do it ..... 81%
- I know what to report ..... 83%
- I'm too busy to report ..... 27%
- Should be anonymous ..... 37%

## Actual reports \*, Dec-Jan 2011

Role	% of all reports
Attending physician	0
Resident	0
Dosimetrist	1%
Physicist	5%
Nurse	20%
Radiation therapist	73%

\*Combined data from all four department sites

## Lessons Learned Naming a Voluntary Reporting System

- We often name our homegrown software by what it does
- Our brand new web-based system, back in 2007, was named “Process Improvement Logs”
- Our staff provided a nickname

# “E-Snitch”

## Training for individual groups

- Initial reporters
- Supervisors
- Teams
- Administration

## Training Initial Reporter

- How – Easy
- What – Harder
- Why – Very hard and continuous



## How - Initial Reporter Screen

Radiation Oncology -  
Variance Learning System

Patient MRN:

Patient's Name:

Reporter's login:  (e.g. jsmith1)

Where was incident discovered:

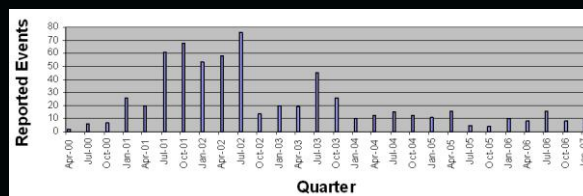
Variance description:

WGEP – Ford *et al*, Consensus recommendations for incident learning database structures in radiation oncology, 2011

## Initial Reporter Training

- What:
  - Explicit events – frequent events
  - Random events
  - Actual errors
  - Potential errors (near misses)
- Culture - Why:
  - Feedback
  - Actions\changes\improvement
  - Leadership message and reinforcement

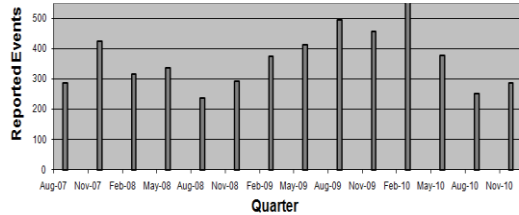
## System Acceptance Voluntary - Paper



Mutic *et al*, Event (error and near miss) reporting and learning system for process improvement in radiation oncology, Med. Phys. 37, 5027-36, (2010).

## System Acceptance Voluntary Web-based


Quarter	Reported Events
Aug-07	280
Nov-07	420
Feb-08	310
May-08	330
Aug-08	230
Nov-08	290
Feb-09	370
May-09	410
Aug-09	480
Nov-09	450
Feb-10	520
May-10	370
Aug-10	240
Nov-10	280



# Training

## Evaluator (supervisors)

- Data classification
- Data analysis
- Culture message
- Error prevention
  - Human factors
  - Incident learning
  - Preventive measures
  - RCA
  - FMEA
  - FTA
  - QM



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Washington University in St. Louis  
School of Management  
MBA (Healthcare Systems)  
2016-2017

- **Data classification**
- **Data analysis**
- **Culture message**
- **Error prevention**
  - Human factors
  - Incident learning
  - Preventive measures
  - RCA
  - FMEA
  - FTA
  - QM

[illegible]


Person & Employee Details		Person & Employee Details	
Person ID	<input type="text"/>	Person ID (optional)	<input type="text"/>
Person First Name	<input type="text"/>	Person's primary working info:	<input type="text"/>
Person Last Name	<input type="text"/>	Person's primary system email:	<input type="text"/>
Mailing	<input type="text"/>	Mailing system email:	<input type="text"/>
Last First of last first	<input type="text"/>	Mailing system mobile:	<input type="text"/>
Use of Effort	<input type="text"/>	Person's working system email:	<input type="text"/>
Use of Efficiency	<input type="text"/>	Person's working system email:	<input type="text"/>
Person Reporting Staff Name	<input type="text"/>	Number of people on treatment:	<input type="text"/>
Person Reporting Last Name	<input type="text"/>	Number of people on treatment:	<input type="text"/>
Person Reporting ID	<input type="text"/>	Number of other staff present:	<input type="text"/>
Person's Birthday	<input type="text"/>	First time:	<input type="text"/>
Use of Effort	<input type="text"/>	Second time:	<input type="text"/>
Use of Efficiency	<input type="text"/>	Third time:	<input type="text"/>
Person's Birthday	<input type="text"/>	Fourth time:	<input type="text"/>
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Use of Efficiency	<input type="text"/>	Sixth time:	<input type="text"/>
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Use of Efficiency	<input type="text"/>	Ninth time:	<input type="text"/>
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Use of Efficiency	<input type="text"/>	Twelfth time:	<input type="text"/>
Person's Birthday	<input type="text"/>	Thirteenth time:	<input type="text"/>
Use of Effort	<input type="text"/>	Fourteenth time:	<input type="text"/>
Use of Efficiency	<input type="text"/>	Fifteenth time:	<input type="text"/>
Person's Birthday	<input type="text"/>	Sixteenth time:	<input type="text"/>
Use of Effort	<input type="text"/>	Seventeenth time:	<input type="text"/>
Use of Efficiency	<input type="text"/>	Eighteenth time:	<input type="text"/>
Person's Birthday	<input type="text"/>	Nineteenth time:	<input type="text"/>
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Use of Efficiency	<input type="text"/>	Twenty-fourth time:	<input type="text"/>
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Use of Efficiency	<input type="text"/>	Forty-second time:	<input type="text"/>
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Use of Effort	<input type="text"/>	Sixty-second time:	<input type="text"/>
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Use of Effort	<input type="text"/>	Seventy-seventh time:	<input type="text"/>
Use of Efficiency	<input type="text"/> </		



# Data elements

## Why Common Data Elements

- RCA
- Standardization
- Benchmarking
- Data trending
- Problem area identification
- Effective area identification



Washington  
University in St. Louis  
School of Medicine  
MRC Center for Research in  
Molecular and Cellular Biology

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- Benchmarking
- Data trending
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## Data elements Level

- Required
- Recommended
- Optional

Minimal Detail

Full Detail



Individual patient  
Local facility

Correlation analysis  
Trending/benchmarking

## Training Process Improvement Team

- At least one expert leader
- Error prevention
  - Human factors
  - Preventive measures
  - RCA
  - FMEA
  - FTA
  - QM



## Training Administration

- Organizational culture
- Organizational learning
- Organizational change
- Safety Culture
- Quality management



## Conclusions

- Different levels of training
- Cultural/organizational training
- Operational training
- Initial training
- Continuous reinforcement

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