Human Factor Based Quality & Safety : Examples

Module 3. Integrated Model: Patient Safety & Clinician Wellbeing

Michael R Privitera MD MS
Professor of Psychiatry
Director, Medical Faculty and Clinician Wellness Program
University of Rochester Medical Center
Chair, MSSNY Task Force on Physician Stress and Burnout.

Malpractice Claims Frequency Comparison

Intervention= Organization-Wide Stress Management Program

	Baseline Year			Following Year			
HOSPITAL GROUP	**Frequency**	M	SD	**Frequency**	M	SD	**Claims Reduction**
Control Hospitals (n=22)	36	1.64	1.81	35	1.59	2.17	**3%**
Intervention Hospitals (n=22)	31	1.41	1.44	**9***	0.41	0.67	**70%**

Baseline Year $t(21) = 1.16$, n.s.

Following Year $t(21) = 2.89$. $p<0.01$*

Jones, John W.; Barge, Bruce N.; Steffy, Brian D.; Fay, Lisa M.; Kunz, Lisa K.; Wuebker, Lisa J.
Stress and medical malpractice: Organizational risk assessment and intervention.
Journal of Applied Psychology, Vol 73(4), Nov 1988, 727-735

Emotional Influences in Patient Safety

ORIGINAL ARTICLE

Emotional Influences in Patient Safety

Pat Croskerry, MD, PhD, Allan Abbass, MD, FRCPC,† and Albert W. Wu, MD, MPH‡*

Objective: The way that health care providers feel, both within themselves and toward their patients, may influence their clinical performance

looked.[5] Surprisingly, few resources have been directed at how health care providers think and feel, particularly in the process of clinical decision making. Yet there is considerable evidence

How doctors feel: affective issues in patients' safety Lancet, 2008

Two books have directed attention to the underpinnings of doctors' thinking.[1,2] Thinking (cognitive) failures abound in clinical decision making, especially in diagnostic formulation, and taxonomies of common cognitive errors have been developed.[3] Diagnostic failure has been identified as a major threat to patients' safety[4] and, this year, the *American Journal of Medicine* published a supplement on the problem[5] to coincide with the first symposium on diagnostic error.[6] Despite the tardiness of this focus on how doctors think, we welcome the advance in evolution of patients' care and safety. The more difficult next step is to recognise that how doctors feel would also be a complementary and worthy topic for investigation, especially [illegible] on clinical decision making and patients' [illegible]

Historically, the prevailing view in medicine is that clinical decisions should be objective and free from contextual affective issues: one could not be objective and

www.thelancet.com Vol 372 October 4, 2008

The Affective Imperative: Coming to Terms with Our Emotions Acad Emerg Med, 2007

Commentary: A unique and distinguishing feature of the article by Dr. Amato[1] in this issue is her account of powerful visceral reactions toward a patient that include empathy, compassion, revulsion, disdain, and disgust

Diagnostic Failure: A Cognitive and Affective Approach In Advances in Patient Safety: From Research to Implementation, 2005

Pat Croskerry

Abstract

Diagnosis is the foundation of medicine. Effective treatment cannot begin until an accurate diagnosis has been made. Diagnostic

University, Halifax, Nova Scotia, Canada; and ‡Health Policy and Management, School of Public Health, Johns Hopkins University, Baltimore, Maryland.

Correspondence: Pat Croskerry, MD, PhD, Department of Emergency Medicine and Department of Medical Education, Dalhousie University, Halifax, Nova Scotia, Canada (e-mail: croskerry@eastlink.ca).

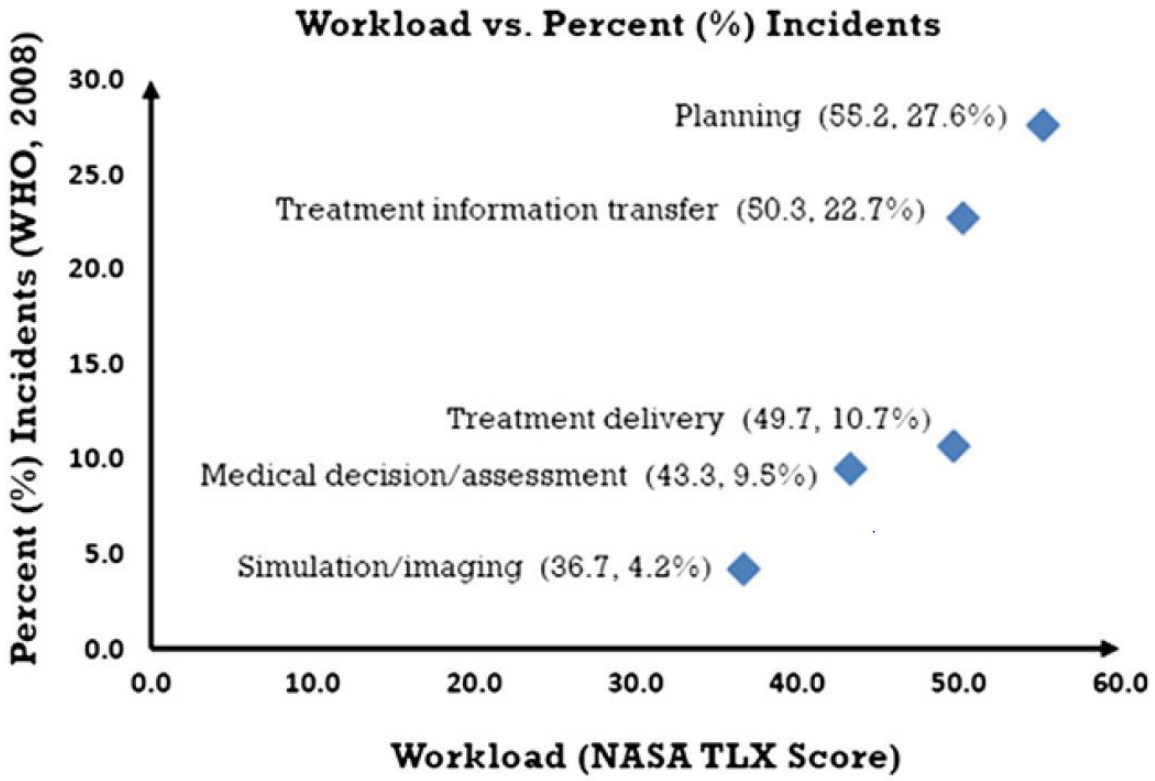
Dr Croskerry was supported by a Senior Clinical Research Fellowship from the Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia, and a grant (P20HS11592-02) from the Agency for Healthcare Research and Quality. Dr Abbass was supported by the Dalhousie University Department of Psychiatry and the Nova Scotia Department of Health. Dr Wu was supported by a grant (U18HS11902-01) from the Agency for Healthcare Research and Quality.

ment with the sented in both Emotion ways. The cor The amygdala ses, conscious decision-maki demonstrated decision maki emotional stat of strategies i

NASA TLX on Workload

Demand	Rating Question	Rating 0 (very low) to 100 (very high)	X Weight	= Product
Mental Demand	How mentally demanding was the task?		3	
Physical Demand	How physically Demanding was the task?		0	
Temporal Demand	How hurried or rushed was the pace of the task?		5	
Performance	How successful were you in accomplishing what your were asked to do?		1	
Effort	How hard did you have to work to accomplish your level of performance?		3	
Frustration	How insecure, discouraged, irritated, stressed and annoyed were you?		3	
			Total weights = 15	Sum=
				÷ 15
				Mean Score=

% **Incidents** Radiation Oncology and NASA TLX **Workload Score**



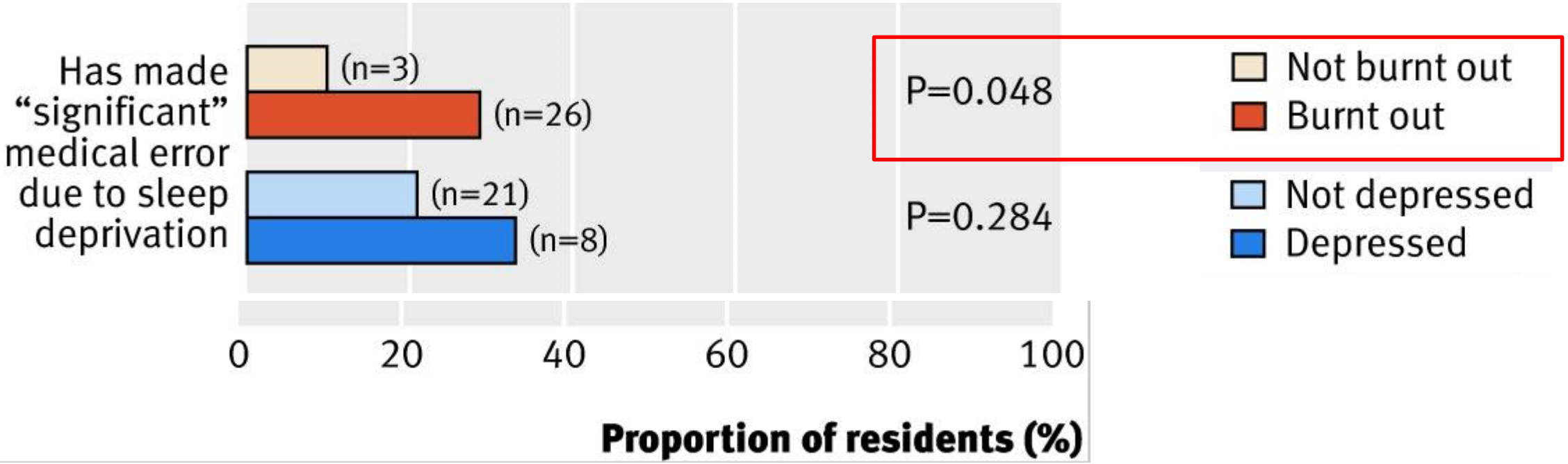
Workload (NASA TLX Score) and Frequency of Radiotherapy Incidents r = 0.87, P value = .045

Mazur LM et al. Quantitative Assessment of Workload and Stressors in Clinical Radiation Oncology. Int J Radiation Oncol Biol Phys, Vol. 83, No. 5, pp. e571ee576, 2012

Can you think of examples where mental or temporal demand, effort or frustration lead to error or near miss?

Pair into groups, discuss with neighbor, share with larger group.

Error Sensitivity to Sleep Deprivation in Burnout and Depression



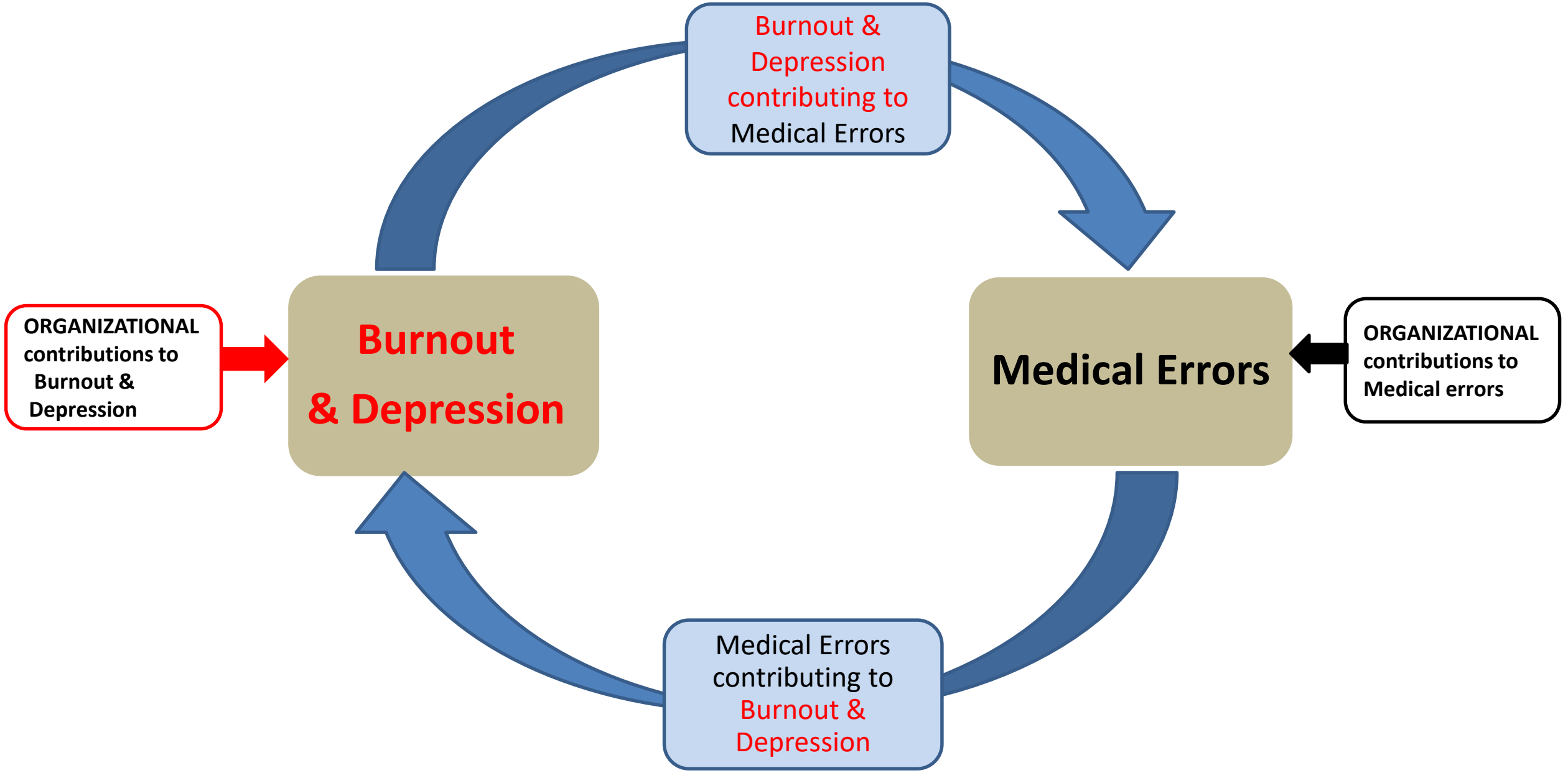
Fahrenkopf 2008

Medical Errors, Personal Distress, Reduced Empathy and Future Errors

- Self perceived **medical errors-** common among internal medicine residents
  - Subsequent personal distress, increased burnout and depression, decreased empathy.
  - **Increases odds for future self-perceived errors**
- **Suggests a vicious cycle.**
- Suggestions:
  1. Efforts to decrease errors
  2. Focus on systemic contributions to error & fatigue
  3. Help with coping, personal awareness and self care.
  4. Environmental culture: Promote prevention, identification, and treatment of burnout.

West CP, Huschka MM, et al. Association of Perceived Medical Errors with Resident Distress and Empathy. JAMA, September 6, 2006. Vol 296, (9):1071-78

Cyclical Relationship between Burnout and Errors



What are some ideas on how to interrupt this vicious cycle of medical error burnout/ depression and medical error?

Group together, discuss, share with group.

Strong Forces Discourage Clinician Self-Care and Speaking Up.
Clinician External and Internal Scripts

External world environment

Medical Culture of Endurance and Silence

Internal world:

Altruism, workaholic, perfectionism, obedience to authority.
'I don't want them to think I can't handle this'.
'Things kept getting in the way of me taking care of patients'.
'My family is depending upon me'. 21 years of school, $250,000 in debt.

- New (authority of choice) regulations say this is 'good care' and led to believe possible to do --in context of all other requirements (though no one oversees the total demand).
-Complaining = whining
-You are a **professional, self-effacement, put aside how you feel***
-Not differentiate **eustress** from **distress** or **hyper stress**.
-'You are lucky to be working/ training here'.
- Don't be 'weak'.
-Don't be a 'fanatic'.

What are some ways to get clinicians to be able to speak up about overwhelm, personal safety and patient safety?

Speak with neighbor, reconvene as a group and share ideas.

Healthy Workplace Study AMA

1. **Improving workflows** within the practice is the most powerful antidote to burnout
   - **Reduces burnout 6 fold.**
2. **Targeted quality improvement projects** addressing clinician concerns
   - **Reduces burnout 5 fold.**
3. **Improving communication** between team members
   - **Improves professional satisfaction 3 fold.**

Linzer M, Poplau S, Grossman E, et al.
A Cluster Randomized Trial of Interventions to Improve Work Conditions and Clinician Burnout in Primary Care: Results from the Healthy Work Place (HWP) Study. *J Gen Intern Med.* 2015.

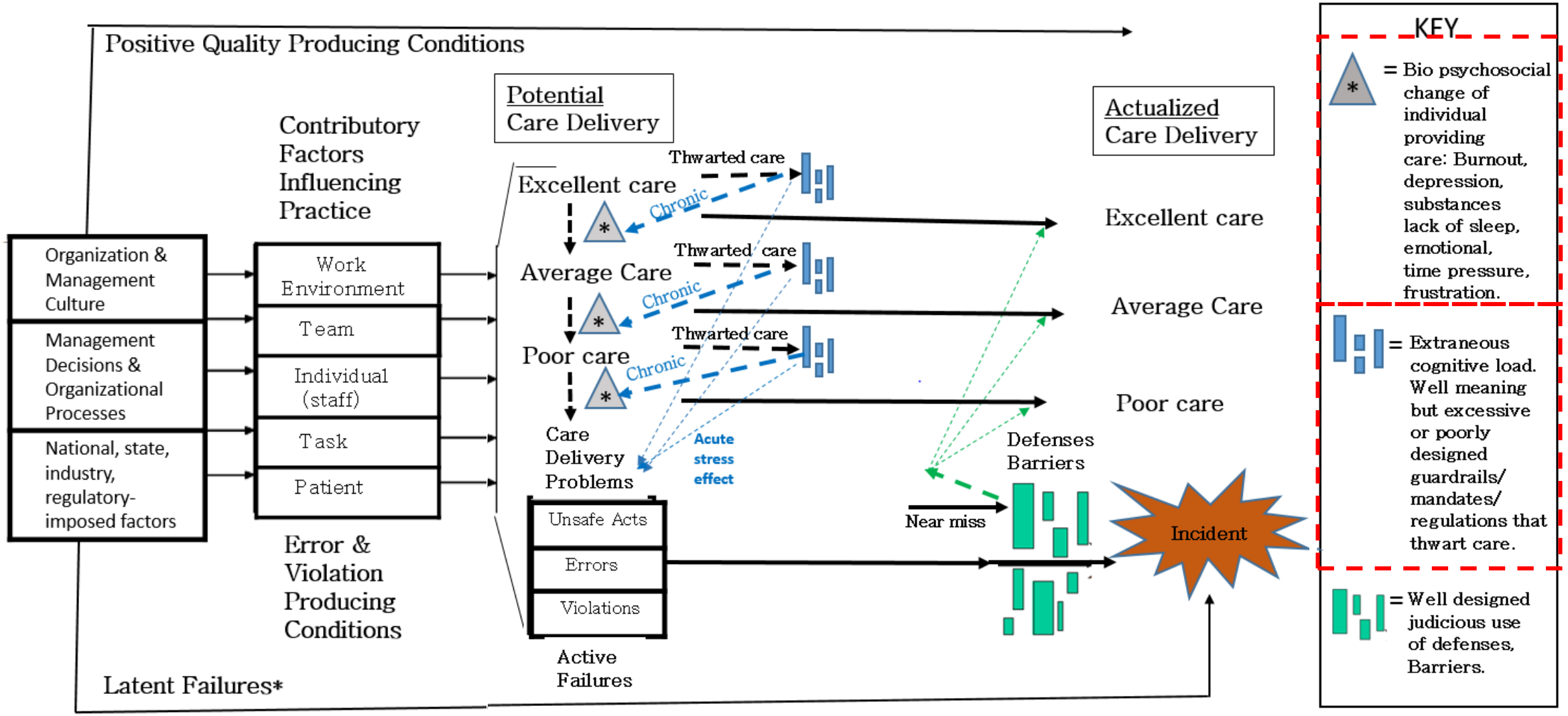
Ergonomics

1. **Physical ergonomics-** deals with human body's responses to physical and physiological work loads
   - e.g. vibration, force, repetition, posture.

2. **(Neuro)Cognitive ergonomics-** deals with brain and mental processes and capacities of humans when at work;
   - e.g. mental strain from workload, decision making, human error and training efforts.

3. **Organizational ergonomics-** deals with organizational structures, polices and processes in work environment;
   - e.g. shift work, scheduling, job satisfaction motivation, supervision, teamwork, ethics, organization of mandatories.

Integrative Model: Patient Safety and Staff Wellbeing



*Latent Failures include poor design, installation, and maintenance of equipment, management decisions, and organizational functioning, and thwarted care leading to acute high stress and chronic high stress.

Lower portion of figure adapted from: Taylor-Adams S, Vincent C. Systems Analysis of Clinical Incidents. The London Protocol. Mar 17, 2001 Clinical Safety Research Unit. Imperial College London.

Privitera, M.R (2018) Addressing Human Factors in Burnout and the Delivery of Healthcare: Quality & Safety Imperative of the Quadruple Aim. Health, 10, 629-644.

What are some examples of factors that thwart care that can lead to acute risk of error? (Group 1)

What are some examples of factors that chronically thwart care that can affect the clinician in ways that devolve their ability to give quality care? (Group 2)

Each group separate and discuss.
Group 1 share with group their findings.
Then Group 2 share with the group their findings.

Comparative Decision Making

- We often try to emulate what effective leaders **do**.
- A more productive approach is to look at how successful leaders **think.**
- Most successful leaders studied are **integrative thinkers**.

STEPS	1.DETERMINING SALIENCE	2. ANALYZING CAUSALITY	3. ENVISIONING the DECISION ARCHITECTURE	4. ACHIEVING RESOLUTION
Conventional Thinkers	Focus only on obviously relevant features	Consider **one-way linear relationships** between variables in which **more of "A" produces more of "B"**	Break problems into pieces and work on them separately	Make "**either-or** choices; settle for best available options
Integrative Thinkers	**Seek less obvious but potentially relevant factors**	**Consider multidirectional and nonlinear relationships among variables**	**See problems as a whole. How parts fit together and how decisions affect one another. Hold in head two opposing ideas at once.**	**Creatively resolve tensions among opposing ideas; generate innovative outcomes. New idea may have elements of each, but is superior to both.**

Martin R. How Successful Leaders Think. Harvard Business Review. June 2007:60-67

Mandatories Lists A and B, each compiled by different sources. Some overlap expected.

Attachment A Mandatory Requirements
(Derived through MSO, Qual, Safety, Compliance offices and Work Group discussion).

Source	Requirement
HHS	HIPAA training
CMS, TJC	Safety Survey
SMH Policy	Sedation Privileging training
NYSDOH	Health report
NYSDOH	PPD
NYSDOH	Mask Fitting
OSHA	Infection Control
NYSDOH	Sepsis Training
NYSDOH	Flu Shot
Federal	NPI
Medicare	Time and Effort Survey
NYSDOH	Opiate Training
NYSDOH	Antibiotic Stewardship
SMH Policy	ICD-10 Training
SMH Policy	EMR Training
SMH Policy	EMR Update Training
SMH/Dept	Cultural Competence
Multiple	Yearly Mandatory In-Service Training
Private Payer/SMH Bylaws & Policy	Board Certification
Private Payer/SMH Bylaws & Policy	Maintenance of Certification
SMH/Dept	Code of Conduct
SMH Policy	ICARE Training
TJC	Attestation of Skill Demonstration- Restraints
U of R/ NYS	Sexual Harassment
Federal	Bullying/Implicit Bias/Diversity
SMH Policy/Specialty	ACLS Training/Updates
SMH Policy/ Specialty	Laser Training
SMH Policy/ Specialty	Radiation Training
SMH/ Policy/Specialty	Ultrasound Training
NYSDOH	Child Abuse Mandatory Reporter Training
U of R	Unconscious Bias Training
Dean	Annual Financial Disclosure
Career: RSRB	**Human Research Patient Protection**
Career: GME/UME	**Student evaluations**
Career: Clinic Trial Sponsor	**Clinical Trial training modules.**
Career related Payer/SMH Policy/ Bylaws Federal/NYS Education	**CME, Productivity reports, Teaching, Research/scholarly, career advancement DEA renewal, NYS License**
Career related: Funding Sources	**Career advancement Grant writing**

Attachment B

Compliance – Everyone
Compliance (Fraud, Waste, and Abuse)
HIPAA Privacy, Security, and Confidentiality of Information
HIV/AIDS Confidentiality
Joint Commission Readiness
Occurrence & Claim Reporting
Patient Identification
Patient Rights/Ethics/Complaint Process
Patient Safety, Team Communication, and Medical Health Care Error Reducti
Quality, Safety, and Performance Improvement

Compliance – Clinical
Continuity of Care Through Interdisciplinary Communication
Medical Record Documentation for Clinical Staff
Write Down, Read Back

Environment of Care – Everyone
Active Shooter
Amber Alert
Disaster Preparedness
Electrical Safety
Emergency Page Codes
Fire Safety
Firearms/Weapons
Hazard Communication
MRI Safety
Obtaining Public Safety/Security
Radiation Safety
Waste Management
Workplace Violence/De-escalating Potential Violence

Environment of Care – Clinical
Medical Equipment

Infection Prevention – Everyone
Bloodborne Pathogens Standard
Hand Hygiene
Infection Prevention – Ebola
Influenza - What You Should Know

Infection Prevention – Clinical
Prevention of Central Line Infections
Prevention of Surgical Site Infections

Patient Interactions - Everyone
Care of Patient Personal Belongings and Valuables
Fall Prevention
Health Care Proxy
Interpreter Services
Lifting and Transfers
Management of Suspected Abuse and Neglect
Patient Self-Determination Rights
Providing Better Care for People with IDD
Rapid Response Team
Stroke Recognition

Patient Interactions - Clinical
Anticoagulation Safety
End of Life Care
Ensuring Comprehensive Handoffs
eRecord/EMR Downtime Procedures
Health Literacy
Information for Clinical Decision Making
Medical Orders for Life-Sustaining Treatment (MOLST)
Medication Reconciliation
Multidrug-Resistant Organisms
Organ, Eye, and Tissue Donation
Pain Management
Restraint Use
Sepsis Management

UR at Work - Everyone
Code of eConduct
Code of Organizational and Business Ethics
Diversity and Inclusion
Interactions Between UR Medicine & Industry
Meal Periods and Rest Breaks
Policy Against Discrimination and Harassment
Professional Conduct Event Education
Professional Misconduct Reporting and the Impaired Professional
Smoke-Free Campus, Inside and Out

UR at Work - Clinical
Conflict of Care

Highland Hospital Employee General Modules
Access to Medication Storage
Bariatric Sensitivity
Employee Use of Social Media
Forensics
Highland Code of Conduct & Compliance Statement
Highland Promise

Jones Memorial Hospital Employee General Modules – Everyone
Patient Prisoner Population

Thompson Health Employee General Modules – Everyone
Incident Reporting
Non-Discrimination
Policies and Procedures
Public Relations
Quality Improvement
SBAR
Service Excellence

University of Rochester Employee General Modules – Everyone
Minimum Standards Programs for Minors
Patient Prisoner Population
Staff Handling of Unknown Substances
The ICARE Commitment

University of Rochester Employee General Modules – Clinical
Clinical Alarm Management

Mandatories list is a product of national, state or industry level Conventional Thinking.

Conventional Thinker not able to weigh benefits versus downstream risks as an Integrative Thinker would, who could be better aware of the potential interaction with other factors in the healthcare system.

Integrative Thinkers, by weighing factors, come up with superior solutions and think more systemically.

Organizational Ergonomics: Mandate Management.

4 Separate Hospital Admin Offices
for Mandates 1, 2, 3, 4

Individual Clinician Based approach

- Your on your own, but have to comply.
- Deal with each mandate office separately.
- Figure out what each wants you to do
- Computer Based Training (CBT) on your own time
- No immediate help if CBT poorly operational .

Organized Administrative collaboration between mandate offices

Formation of single committee **"Clinical Education Council"** through which all mandatories are processed, recorded, satisficed and monitored.

Hospital & Department-Based approaches

Organized with support provided to expedite and guide compliance with people familiar with software operation, staff in other offices, requirements, etc.

Healthcare Organization Level Burnout Reduction Opportunity

From Chaos to Order

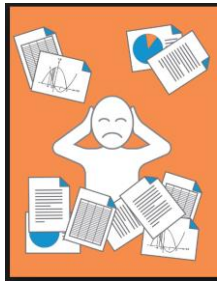
Macro Level-

National, state, industry, regulatory

Well-intended
EMR- not well designed.
Multiple Quality Metrics untested un-harmonized.
Patient Safety Movement silo-ed, uncoordinated
Mandates, laws, regulations.
Public demand for increased clinician education as solution.
Patients as primary concern

Not so well-intended
Hassle Factors by Insurance **intended** to wear down provider,
cost control methods adapted from auto production.
For-profit Agendas.
Healthcare as investment vehicle.
Shareholders as primary concern

Individual Clinician Based approach

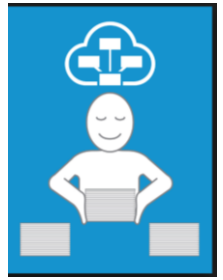


Meso Level-

Hospital/Healthcare Organization

Organization Management
Mitigation of Chaos

Organization-Based approaches



Micro Level-

Individual clinician

Proposed Mandate Solutions

1. Formation of a **single committee that tracks all mandates and advisory to Subject Matter Experts (URMC=Medical Faculty and Clinician Wellness Program Mandatory Learning Review Committee)**. Its purposes:
    1. Collaborating on the identification, development, reviewing mandatories
    2. Reducing cognitive load of education requirements
    3. Enhancing interprofessional education.
2. ***Satisfice*** *mandatory portion* (satisfactory and sufficient to meet requirement, but no extras). Option for additional learning for those interested.
3. Improve the experience of completing mandatories. Engage intrinsic desire to give good care. More effective learning methods. Avoid terms like “assignment” that remind employee they have no control and no choice.
4. Organize mass completion of mandates.
5. Consider employee input on how to accomplish mandates where possible

Proposed Mandate Solutions Continued

8. **Avoid short term low-cost-to-institution solutions** to mandate completion. Be careful with prepackaged training company products who do not have motivation to keep learning concise and efficient.
9. Universal fallacy is the **underestimation of negative impact on the clinician**, as each is thought to be minimal inconvenience so determine the total expectation.
10. Have all mandatories **stored on one website** for ease of access.
11. Classifying a learning activity "mandatory" must be **carefully weighed** against unintended consequences.
12. If mandatory training designation is a legal agreement to a lawsuit or regulatory necessity, the **same methods above** can be used .
13. Objective of the mandate is to demonstrate knowledge of the subject matter so **allow "testing out"** so that staff can go directly to answering the questions.
14. M**andate completion expectation needs to be reframed as a Cost of Doing Business Expense**. Time during the day must be provided by the institution to achieve completion of the mandatories without cutting into employee time off and family time.

--**This would create institutional financial incentives to:**

1. Reconsider what is mandatory
2. Creates an economic force that causes the mandatories to be made shorter, more efficient to complete
3. Helps rethink what really is key to learn and what is optional to learn.

Institute for Healthcare Improvement (IHI)

"Breaking the Rules for Better Care Week"

- In one week, with assistance of patients, families, clinical and non-clinical staff, multiple Alliance Hospitals asked:

VIEWPOINT

Breaking the Rules for Better Care

Donald M. Berwick, MD, MPP
Institute for Healthcare Improvement, Cambridge, Massachusetts.

Saranya Loehrer, MD, MPH
Institute for Healthcare Improvement, Cambridge, Massachusetts.

Christina Gunther-Murphy, MBA
Institute for Healthcare Improvement, Cambridge, Massachusetts.

A few years ago, the Dean of the School of Business at the University of Leicester, Dr Zoe Radnor, tried to understand the reasons for the "bicycle book" that she discovered at an English hospital she was studying. All staff who arrived at work by bicycle routinely signed a register book at the front door. Hundreds of these registers, once full, had been collected and stored for decades in clearly marked boxes. "Why?" Professor Radnor asked. No one knew.

The answer took some sleuthing. The first books dated from World War II—when rationing of fuel was the rule of the day, and when any staff who commuted by bicycle thereby earned extra food ration credits for saving on gas. Now, three-quarters of a century later, the bicycle book process remained alive and well, embedded in the organization's brainstem, not its cortex. It was pure waste.[1]

Administrative burdens and complexity are alleged to be among the most costly forms of waste in US health care, at levels far exceeding those in other nations.[2,3] Further, such requirements are said to detract from the care experience of patients and to drain time and morale from physicians and other staff, for

Alliance organizations varied in their approaches to identifying unhelpful rules; some formally surveyed their staffs, some hosted organization-wide meetings, and others used volunteers to interview patients and families. Of the 42 organizational members of the Alliance, 24 participated in the "Breaking the Rules for Better Care" effort, and, in 1 week, with the assistance of patients, families, and clinical and nonclinical staff, identified 342 rules perceived to provide little or no value to patients and staff.

Institute for Healthcare Improvement staff reviewed all the rules nominated by participants for duplicates, allowing identification of the total unique submissions as well as the most popular submissions. They then classified the rules into 3 types:

1. Habits embedded in organizational behaviors, based on misinterpretations and with little to no actual foundation in legal, regulatory, or administrative requirements (eg, forbidding drinking water to be available for staff at nursing stations)
2. Organization-specific requirements that local leaders could change without running afoul of any formal statute or regulation (eg, making patients and families pay for parking or restricting visiting hours)

> "If you could break or change any rule in service of a better care experience for patients or staff, what would it be?"

Berwick DM, Loehrer S, Gunther-Murphy C. Breaking the Rules for Better Care. JAMA. June 6, 2017. (317) Number 21:2161-2162.

Results (IHI- “Breaking Rules”)

- 24/42 organizations participated
- Identified **342 rules** perceived to provide little or no value to patients and staff.
- Classified into 3 Types

1. **Habits** embedded in organizational behaviors, based upon misinterpretations of legal, regulatory or administrative requirements **[16%]**
2. **Organization-specific requirements** that local leaders could change without running afoul of any formal statute or regulation **[62%]**
3. **Actual statutory and regulatory requirements** [22%]

The unexpected surprise: Majority [78%] were fully within administrative control to change.

Four Types of Action of Alliance Members **(IHI)**

1. **Debunking myths** about nonexistent or misinterpreted rules through staff education
2. **Seeking clarity** from appropriate regulatory agencies about true scope and intent of rules
3. **Changing local administrative policies** for which no sufficient rationale was found
4. **Speaking with "collective voice" to policy makers** about regulations harmful to care or wasteful of limited resources.

Responsibility Matrix

Clinician Responsibility		Administrator Responsibility	
Action	**Comment**	**Action**	**Comment**
Acknowledge Change	New issues, understand their impact, understand how to adapt	**Validate Suffering**	Empathy, validate feelings, recognize impact; you will navigate with them as partners
Own Safety and Quality	Acknowledge variability of care and its impact on outcomes, improve care delivery	**Communicate**	Keep physicians informed and the "why" behind decisions. Is two way street: In addition to sharing information are you listening to what they say?
Promote Accountability and Peer Mentoring	Must hold each other accountable, and be proactive to advance this responsibility	**Help Physicians Understand the Business**	Help educate our physician partners so they better understand the things we do.
Stop Bad Behavior	Have to stop yelling, bullying, lack of follow-up, not responding or outright verbal or physical abuse.	**Be Inclusive**	If you want physician support for key decisions, **include them in the real decision making.**
Practice Humility	Respect the knowledge and skills of our non clinical colleagues.	**Recognize the Need for Symbiosis**	Recognize the need for tandem roles of physicians and administrators for quality of care and maintaining health of the business
Lead By Example	Physicians are looked up to for guidance and advice and people closely follow their actions.	**Beware of Trigger Issues**	Before executing something new, understand the mood of your physicians and the effect the change will have relative to other recent changes and ensure appropriate consultation and communication.

Adapted from Merlino J. August 19, 2015:
http://www.beckershospitalreview.com/hospital-physician-relationships/the-responsibility-matrix-a-strategy-for-stronger-physician-administrator-partnerships.html

Strategies Designed to Prevent Individual Error, Grounded in System-Based Cognitive Psychological Research

- Manage workplace fatigue and stress
- Decrease reliance on memory
- Decrease reliance on vigilance

Simpson KR, Knox GE. Recognizing and Understanding Adverse Perinatal Outcomes and Preventing Common Accidents. AWHONN Lifelines, June/July Vol 7, issue 3(224-35) 2003

- Reduce need for manual calculations
- Design and redesign useful policies
- Develop standardized unit practices based on evidence and guidelines from professional associations
- Have accurate up-to-date readily available when needed.

Adapted from: Nolan, TW (2000): Education and debate: System changes to improve patient safety. British Medical Journal, 320 (7237), 771-773