



Diagnosics for Patient Safety and Quality of Care

Carol Haraden, PhD

APAC Forum

This presenter has nothing to disclose.

Vulnerable System Syndrome

- Three core pathologies
 - Blame
 - Denial
 - And the pursuit of (the wrong kind of) excellence





What data do you have about
how people are harmed and
why they die?
So what do you do with all this
information?

Diagnostic Journey

- Do people die unnecessarily every day in our hospitals?
- In order for us to understand this, we need a diagnostic journey that moves out of a model for judgment and into a model for learning.



The Mortality Diagnostic – 2x2 Matrix

- Review most recent 50 consecutive deaths.
- Place them into a two by two matrix based on:
 - Was the patient *admitted* for palliative care?
 - Was the patient *admitted* to the ICU?
- Focus your work initially on boxes that have at least 20% of your mortality.



Diagnostic – The 2 x 2 Matrix

		Admitted to the ICU?	
		Yes	No
Admitted for Palliative Care Only?	Yes	Box #1	Box #2
	No	Box #3	Box #4



US 2X2 Table Aggregate

64 Hospitals

	ICU Admission	No ICU Admission
Comfort Care	86/3175 3% (0-14%)	402/3175 13% (0-40%)
Non Comfort Care	1161/3175 37% (10-72%)	1526/3175 48% (18-76%)



The Mortality Diagnostic - Failure to Recognize, Plan, Communicate

- Analyze deaths in box 3 and 4 for evidence of failure to: recognize, communicate, plan.
- This will help you understand the local environment.



The Mortality Diagnostic

- The Impact of Care

Evaluate ALL deaths in box 3 and box 4 to assess the estimated impact of our care on mortality:

*As you review the deaths in box 3 & 4, ask yourself the questions honestly (focusing on learning, not judgment):

- **Was perfect care rendered?**
- If perfect care wasn't rendered, could the outcome of death have been prevented if the care had been better?
 - What number of deaths could have been prevented?



Recognize, Communicate, Plan

- - **Failure to Recognize:** Any situation in which a patient has died and there was evidence that an intervention could have been made anytime prior to the patient's death
Example: the staff was worried, change in heart rate, change in respiratory rate, change in blood pressure, change in O2 saturation or change in consciousness or neurological status that was not responded to.
- **Failure to Plan**, such as: diagnosis, treatment, or calling a rescue team.
- **Failure to Communicate:** Patient to staff, clinician to clinician, inadequate documentation, inadequate supervisor, leadership (no quarterback for the team), etc.



The Mortality Diagnostic

- Evidence of Adverse Events

- Analyze deaths in box 3 and 4 for evidence of adverse events using the Global Trigger Tool.
- This will give some further direction to local problems.



Global Trigger Tool

- Review chart for triggers that are sensitive and specific for harm
- Find a trigger- was there harm?
- Not all triggers mean there was harm!



Global Trigger Tool Modules

- Cares (General)
- Critical Care
- Medication
- Surgery
- L&D
- ED



	Cares Module Triggers
C1	Transfusion or use of blood products
C2	Any Code or arrest
C3	Dialysis
C4	Positive blood culture
C5	X-Ray or Doppler studies for emboli
C6	Abrupt drop of greater than 25% in Hg or Hemtocrit
C7	Patient fall
C8	Decubiti
C9	Readmission within 30 days
C10	Restraint use
C11	Infection of any kind
C12	In hospital Stroke
C13	Transfer to higher level of care
C14	Any procedure complication
C15	Other

How it is Actually Done

- 1 - Set your timer for 20 minutes
- 2 - Review the coding summary (look for e-codes and obvious events)
- 3 - Review the discharge summary
- 4 - Review the lab
- 5 - Review the x-ray reports
- 6 - Review the procedure notes
- 7 - Any time left over, review nurse notes



Example of a trigger: Transfer to higher level of care

- Endoscopy
- Post procedure somnolent and hypotensive (BP 80) transferred to ICU
- Placed on Bi-Pap
- Received standard Demerol and Versed for procedure
- Given Romazicon; stayed in unit 12 hours.



Global Trigger Tool Examples

- Readmit within 30 days with recurrence of abscess right hip.
- Readmit next day w/ileus s/p exp lap for tumor.
- Stopped lasix-acute renal failure.
- Readmitted in 30 days for wound revision due to incisional seroma.
- Readmit related with wound infection.
- Volume Depletion with altered mental status caused by Lasix -resulted in hospital admission.
- ARF due to nephrotoxicity due to combination of ACE and NSAIDS taken at home.
- Ischemic colitis had rt hemicolectomy. New onset CP=MI. Unresponsive, coded. Decreased loc & sats on Morphine PCA. Rec'd Narcan.



Outpatient Data Collection Tool

Chart	+Triggers T1-T11	+Triggers that led to events	Classification of events E-I	Total number of events	Total number of months reviewed
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19				Total events	Total Months
20				<input type="text"/>	<input type="text"/>

Trigger Explanations

Trigger 1-New Diagnosis of Cancer. Look for preventive measures not done. Timeliness issues. Events surrounding therapy and follow-up. Was the correct diagnosis made.

Trigger 2-Nursing home placement. Was the placement the result of an event. A fall due to over-sedation etc.

Trigger 3-Admission and discharge from the hospital. Look for reasons for admission, discharge medications reconciled with usual outpatient medications. Look for appropriate follow-up

Trigger 4-More than three consultants. Are the consultants talking to each other. Has communication problems arisen.

Trigger 5-Surgery Done. Was the reason for surgery related to some outpatient event that could have been prevented or improved upon. Did follow-up unveil any complications.

Trigger 6-ED visit. Reason for the visit. Was this a failure of the outpatient clinic. Was there a problem related to follow-up

Trigger 7-Greater than 5 medications. Look for drug drug interactions. Particularly over-sedation or over-medication.

Trigger 8-MD Change. Was there an abrupt change in MD in charge. What might that reason be. Look for care problems.

Trigger 9- Complaint letter. Was the complaint related to an event or care issue.

Trigger 10-Greater than 6 nursing calls. Are those calls related to an event.

Trigger 11-Abnormal lab value. Was this followed up properly and was an event associated with it



Waste Identification Tool

Design Elements

- Identifies waste from perspective of the “shop floor”
- Engages front line staff
- Use of the Tool is simple
- Provides an infrastructure for continuous and deliberate waste identification and reduction sensitive to the political and economic environment



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Ward Module Instructions

INSTRUCTIONS
 Determine the number of beds for the ward or unit. This should be the total number of all beds, including those in use and not in use. Each bed should be noted on the worksheet in the "Patient Bed ID" column, noting each bed with an identification that will be understood locally (for example, room numbers, ward bed numbers, or other identifications typically used on the ward). Use a second worksheet if you need additional space to review all beds on the ward or unit. Note the number of total beds reviewed in the space for "Total Beds Reviewed."

Direct communication with bedside caregivers is recommended for this module. Use review of case notes or patient records only for information that cannot be obtained or if bedside caregivers are not available.

EXAMPLES OF WASTE or POTENTIAL WASTE to INCLUDE
Bed Occupied or Used Inappropriately: Beds used for other than inpatient care

- Temporary storage
- Temporary offices
- Outpatient use

Healthcare-Associated Infection: Patient admitted or treated for an infection caused by medical care

- VAP
- MRSA
- C. diff
- Bloodstream infection
- UTI
- Wound infection
- Other

Adverse Drug Event: Drug caused admission or extension of stay

- Anticoagulant bleeding
- Dialysis secondary to drug toxicity
- Bone marrow depression
- Dehydration
- Arrhythmia
- Other

Procedure Complication: Any procedure complication causing admission or extension of stay

- Intra-operative complication
- Pneumothorax
- Hematoma
- Post-operative shock, MI, renal failure
- Other

Unnecessary Hospitalization: Any hospitalization where a defect in care caused the readmission or admission

- Diabetes
- Heart failure
- Hypertension
- Chronic obstructive pulmonary disease
- Adult asthma
- Pneumonia
- Urinary tract infection
- Unplanned readmission
- Other

Flow Delay: Delays causing beds to be occupied that should not be

- Patient in a bed with a completed discharge waiting to leave
- Bed being held for any type of patient – medical, surgical, admission or transfer
- Expired patient in the bed awaiting transfer to morgue (*this prevents other admissions*)
- Room not cleaned or in the process of being cleaned (*this may delay patients who are waiting for bed assignments*)

Clinical Care Delay: Delays in the delivery of clinical care that result in the patient remaining in a bed

- Imaging procedures not able to be done or delayed
- Surgery delays due to tests or consults not completed
- Consultation delays resulting in prolonged stay

Hospital Inpatient Waste Identification Tool, Institute for Healthcare Improvement, May 2010 Page 15

Waste Identification Tool Worksheet

Ward Module Clinical Waste

Unit ICU Reviewers _____

Date Wed, April 10

Bed ID	Waste		Waste Streams							Comments
	Yes	No	Nosocomial Infection	Adverse Drug Event	Procedure Complication	Unnecessary Hospitalization	Flow Delay	Clinical Care Delay		
T-1	X									Awaiting PICC IR
T-2	X				X					Lap chole comp
T-4	X							X		Futility EOL, family
T-5	X							X		
T-7	X								X	No Plan
T-8	X							X		No drip on floor. Pt walking around ICU
T-9		X								
T-10	X							X		No (insulin) drip on floor
B-S	X								X	No OR til Fri
B-T	X							X	X	Card. Consult, no family meeting, EOL
B-O	X								X	Pt fell, No OR til Fri
B-S		X								
C-M	X							X		End of Life (EOL)
C-A		X								
C-J	X								X	Trach Collar trial not done
V-R	x								X	Awaiting trach & G-Tube
V-A	X		X					X		Inf & EOL futility
V-A	X				X			X		Pneumothorax, & EOL futility
V-P	X		X		X					Graft inf. & hematoma

Total # of wasted beds the numerator 16
 Total # beds reviewed the denominator 19
 % waste 84%

Patient Module Interview

54 year old male with recent hip replacement:

- EKG done the day of surgery when had been done in internists office two days before surgery.
- Sequential compression devices which kept falling off and did not ever seem to work.
- Physical therapy continued walking patient even after he was walking on his own without difficulty.
- Portion sizes for meals continued to be large even though he requested smaller portions at least three times.



Resources

- White papers
 - Mortality
 - Global Trigger Tool
 - Waste Tool

