

A Systems Approach To Managing Medication Risk

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**A Systems Approach
To Managing Medication Risk**


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ISQua 21st International Conference 

Melbourne, Australia


Background

- ♦ The need to come up with models that influence change is well supported in literature
- ♦ Ample opportunity exists for catastrophic medication adverse events
- ♦ Premise of this model is to design risk out of systems, by developing fail safe procedures

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Definitions

- ♦ An adverse event is defined as any unintended incident which has the potential to, or did, cause harm to a patient, and is caused by healthcare management rather than the patient's disease.

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Risk Management Hypothesis


- ♦ An optimum risk management system will:
 - Identify source of error and root cause
 - Measure, monitor and report results to decision making bodies
 - Implement procedures and guidelines that reduce variation in systems
 - Communicate, educate and make accessible redesigned systems

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Source of Error Identification

- ♦ Based on the Leape 9-step plan (1998) to build and test model:
 - Divides all opportunities for drug error into nine steps from decision to treat, through to monitoring response to a medicine

Leape LL, Kabacoff A, Berwick DM et al (1998) Institute for Healthcare Improvement Reducing Adverse Drug Events Breakthrough Series guide. Institute for Healthcare Improvements, US

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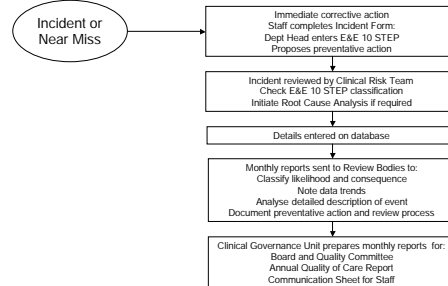
E&E 10 Steps

- Decision made on appropriate medicine or treatment
- Prescriber writes order/prescription
- Pharmacist reviews prescription
- Medicine is prepared and dispensed
- Medicine is delivered to clinical area
- Prepare to administer medicine
- Medicine administered to patient
- Medicine administration recorded on patient chart
- Patient response monitored
- Discharge according to plan and care continued

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Reporting Adverse Events



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Measure, Monitor and Report

- Incidents reviewed and categorised according to the model, by authors
- Details entered on database
- Data reported to relevant clinical body
- Follow up actions reviewed by peak body
- Iterative to ensure clinicians implemented useful preventative strategy

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Federation Square

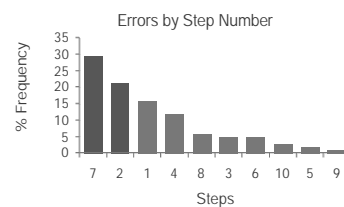
Results: March 03 – March 04

Step	Number (total 102)
1 Appropriate decision	16
2 Order written	22
3 Prescription reviewed	5
4 Dispensed	12
5 Delivered	2
6 Dose preparation	5
7 Administered	30
8 Documented	6
9 Response monitored	1
10 Continuity	3

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Major Causes



- Step 2 Prescriber writes order/prescription
- Step 7 Medicine administered to patient

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Categorisation to Identify Cause

Step 7 Medicine administered to patient

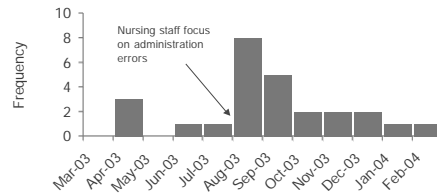
- 7.1 Current guidelines, protocols, policies not accessible
- 7.2 Staff lack of knowledge or competence
- 7.3 Staff non-compliance with guidelines, protocols, policies
- 7.4 Procedures inconsistent across hospital
- 7.5 Use of faulty technical support or equipment
- 7.6 Administered at wrong time or omitted
- 7.7 Administered to incorrect patient
- 7.8 Administered incorrect drug
- 7.9 Administered by incorrect route
- 7.10 Incorrect self-administration by patient

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7.6 Results

- 7.6 Administered at incorrect time or omitted



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7.6 Root Cause Identification

- 7.6 Administered at incorrect time or omitted
- Incident forms indicated failure:
 - Due to structural ambiguity of drug chart
 - Graduate nurses not orientated to ward so unaware of local protocols

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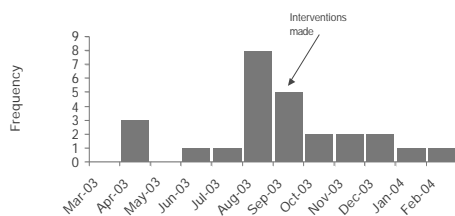
Reduce system variation

- 7.6 – administered at incorrect time or omitted
- multiple areas in medical record where in patient drug orders could be written - reduced to 1
- illegibility due to poor design of chart -eliminated by change to layout
- Better staff orientation

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Results



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Critical Success Factors

- Staff engaged in development of incident report form
- Structure of review - decision makers review data monthly
- Data are acted on and changes communicated to staff
- Method sustained through staff confidence in reporting system and feedback

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Where to from here?

- ♦ Inclusion of the 10-step plan on the incident reporting form
- ♦ Provide education sessions for all clinical staff on the process, and encourage reporting
- ♦ Report aggregate data to all staff regularly, as well as the system changes made to correct faults

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Conclusions

