INCIDENT MONITORING: *LEARNING FROM ERROR*

KIM HANSEN MBBS(HONSI) MBA FACEM

@HANSENDISEASE

A Medical Crisis

BELOW THE SURFACE

Surgical & Medication Errors

Diagnostic Errors

5% of outpatient office visits

10% of hospital inpatient deaths

12% of hospital adverse events

74,000 deaths each year

18 MILLION diagnostic ERRORS each year

"Nearly every person will experience a **diagnostic error** in their lifetime"

INSTITUTE OF MEDICINE SEPT 2015

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Home > Health

Health Program Director
Stephen Duckett
Dr Stephen Duckett has held top operational and policy leadership positions in health care

One in nine patients in Australian hospitals between 2012 and 2015 suffered a complication – about 900,000 patients every year. For patients who stay overnight, the rate of complications is one in four, about 725,000 patients a year.

The risk of complications varies dramatically depending on which hospital a patient goes to, ranging from 2.9 per cent of hospital admissions to 16.6 per cent.

Pharmaceuticals | Health systems, management and funding | Hospitals

"The emergency department's unique operating characteristics make it a ***natural laboratory*** *for the study of error."*

- Croskerry P, Sinclair D. Emergency medicine: A practice prone to error? CJEM 2001; 3 (4):271-6.

EMERGENCY MEDICINE RISK FACTORS

- Chaotic
- Undifferentiated pathology
- Overcrowded
- Time pressured
- Staff Movement

CORONERS' REPORTS INVOLVING DIAGNOSTIC ERROR IN ED

- Aortic dissection
- Acute coronary syndrome
- Sepsis
- Meningococcal disease
- SDH
- Pulmonary embolism

Medical error: the second victim..

- The term second victim was initially coined by Wu in his description of the impact of errors on professionals. **The doctor who makes the mistake needs help too.**
- In the aftermath of a mistake, it's important the doctor seek support to deal with the consequences.

Albert W Wu *associate professor*
School of Hygiene and Public Health and School of Medicine, Johns Hopkins University, Baltimore, MD

Wu AW (2000). "Medical error: the second victim. The doctor who makes the mistake needs help too". *BMJ* **320** (7237): 726–7.

Kay says now that he was probably suffering from undiagnosed post traumatic stress disorder, and that **little understanding was shown by the medical administration.** Instead, he didn't discuss what had happened with anyone, even his family, who are all doctors.

He was in a **state of depression for about a year**, not going out, not seeing anyone, and losing a great deal of weight.

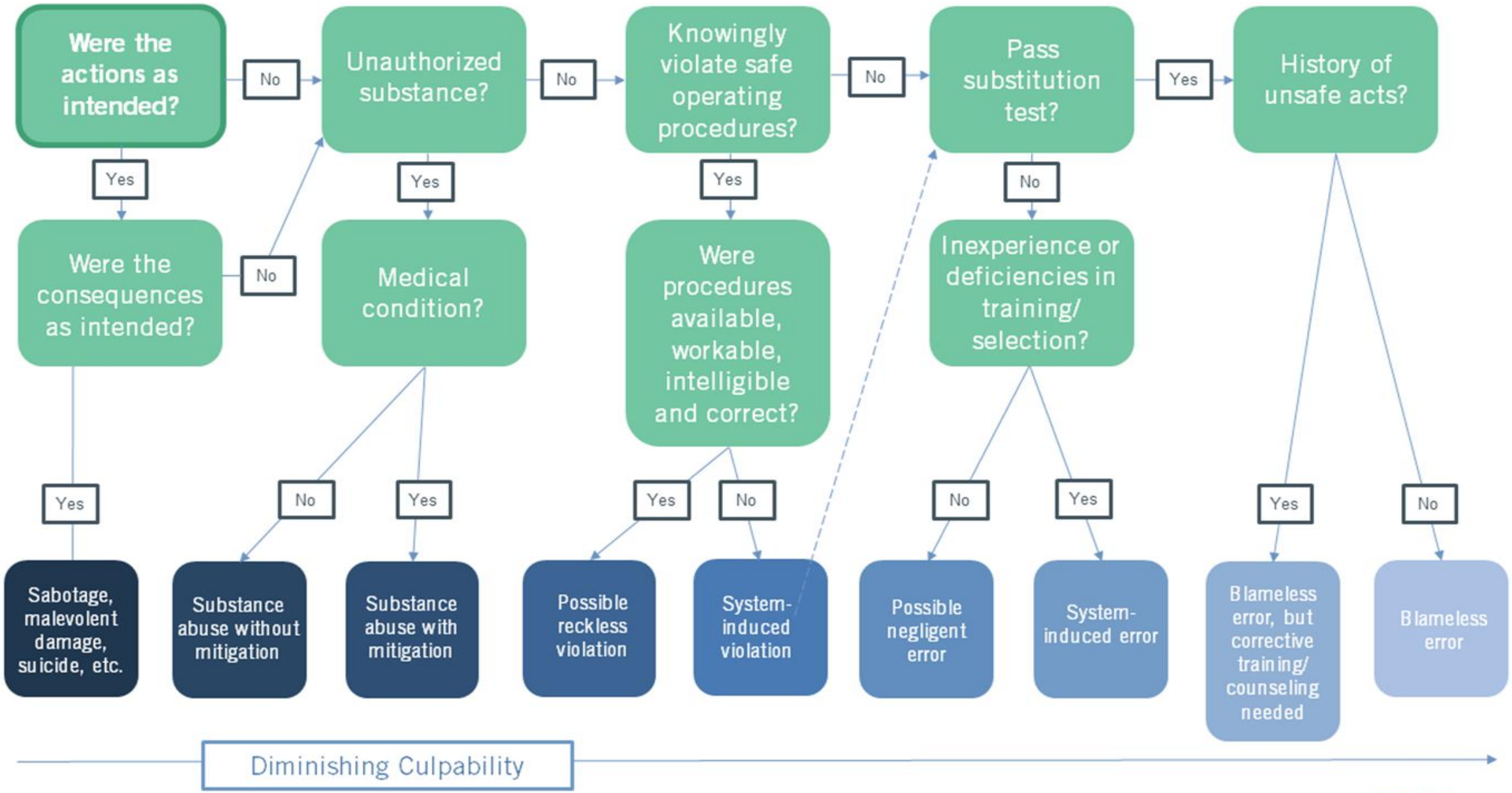
MYTHS ABOUT MEDICAL ERROR

BAD PEOPLE MAKE ERRORS

ERRORS ARE RANDOM AND HIGHLY VARIABLE

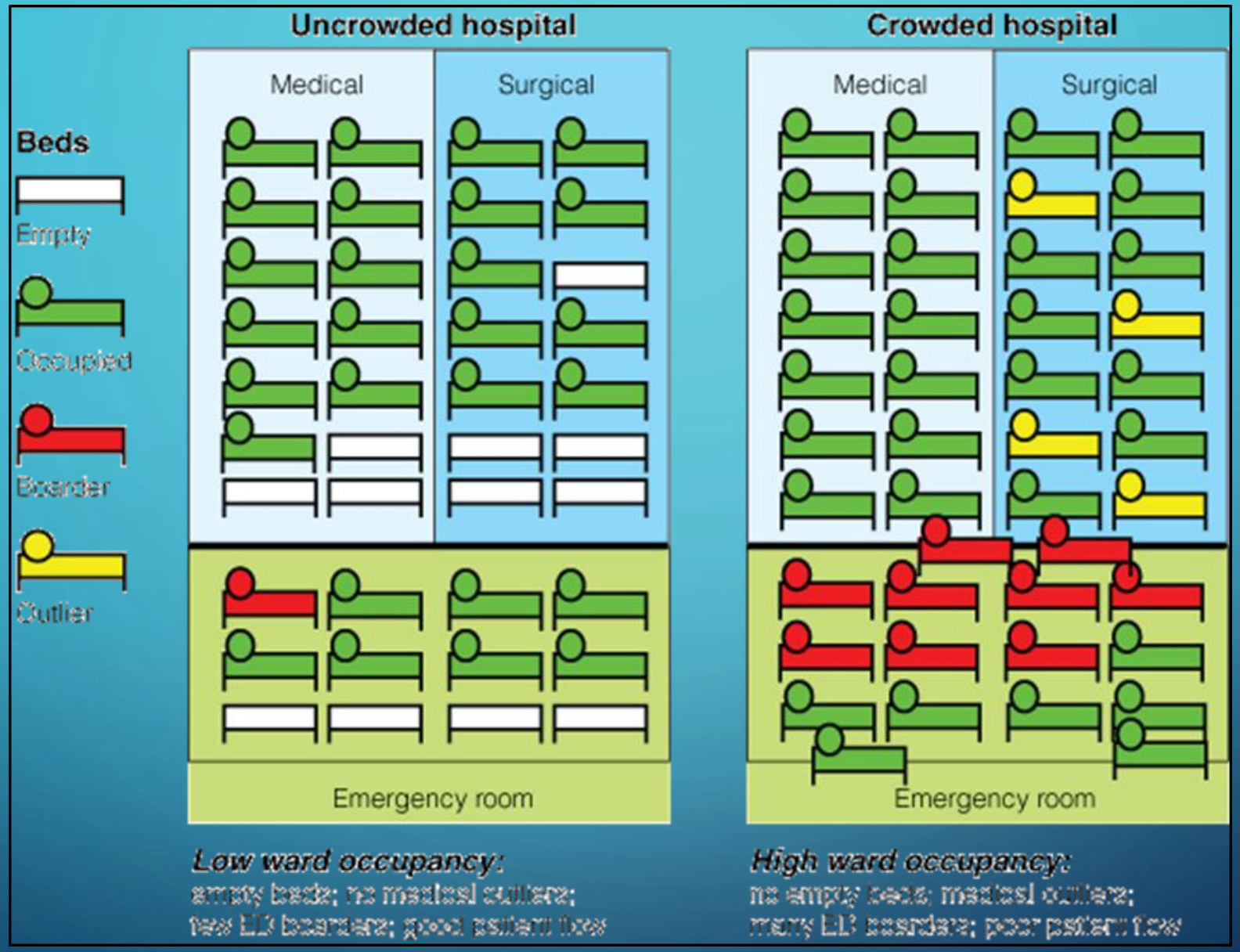
ERRORS OF HIGHLY TRAINED PROFESSIONALS ARE VERY RARE

THE ERRORS OF HIGHLY TRAINED PROFESSIONALS ARE SUFFICIENT TO CAUSE BAD OUTCOMES



Decision Tree for Determining Culpability of Unsafe Acts

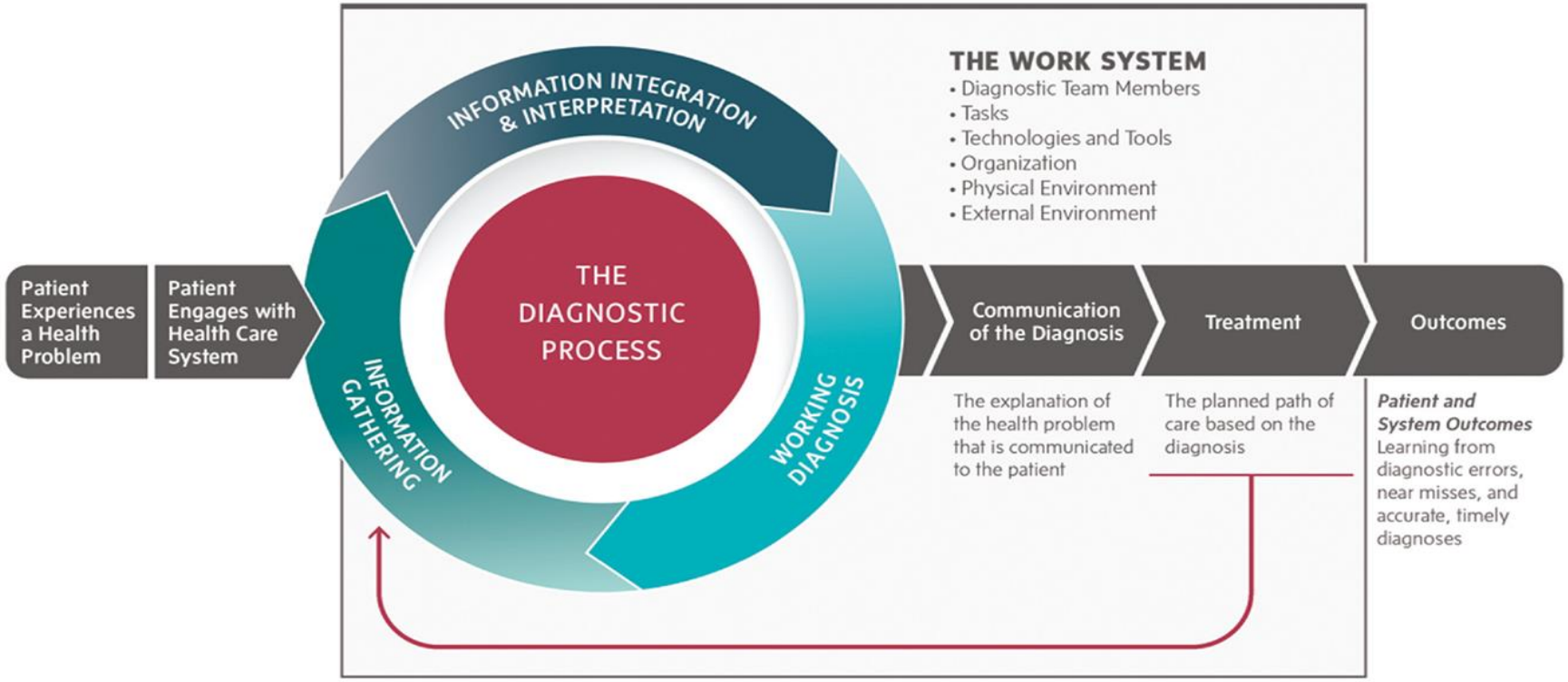
Reason, J., Managing the Risks of Organizational Accidents



Peter C Sprivulis, Julie-Ann Da Silva, Ian G Jacobs, George A Jelinek and Amanda R L Frazer
Med J Aust 2006; 184 (5): 208-212. || doi: 10.5694/j.1326-5377.2006.tb00203.x

Where Failures in the Diagnostic Process Occur

- Failure of Engagement
- Failure in Information Gathering
- Failure in Information Integration
- Failure in Information Interpretation
- Failure to Establish an Explanation for the Health Problem
- Failure to Communicate the Explanation



The National Academies of SCIENCES · ENGINEERING · MEDICINE

SOURCE: National Academies of Sciences, Engineering, and Medicine. 2015. *Improving Diagnosis in Health Care*. Washington, DC: The National Academies Press.

INCIDENT MONITORING

SHARE THE ERROR

webAIRS
Anaesthetic Incident Reporting System from ANZTADC

Home | Log In | Registration | Wednesday, 27 November 2013

Home Incidents Useful Links

WebAIRS - web based anaesthetic incident reporting system

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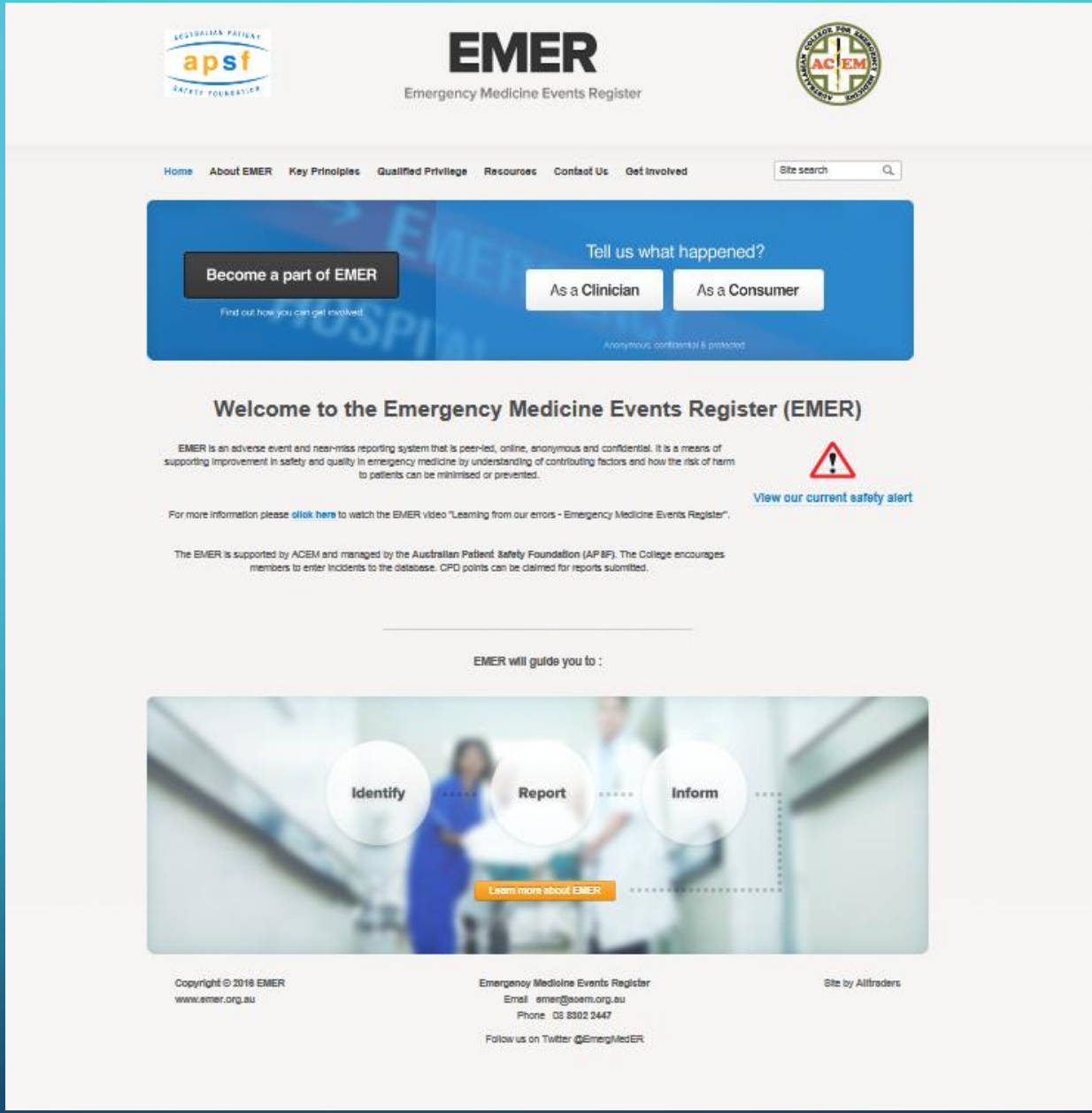
EMER.ORG.AU

EMERGENCY MEDICINE EVENTS REGISTER



EMER.ORG.AU

@EMERGMEDER

AUSTRALIAN PATIENT apsf SAFETY FOUNDATION

EMER

Emergency Medicine Events Register

AUSTRALASIAN COLLEGE FOR EMERGENCY MEDICINE AC EM

Home | About EMER | Key Principles | Qualified Privilege | Resources | Contact Us | Get Involved

Site search

Incident Report

Page 1 of 4

Please enter incident details below - mandatory fields are marked with an asterisk (*).

Country *

Australia

How is the organisation funded? *

On what date did the incident occur? (Please use date picker on right hand side.) *

Date is

Exact date

☐ Weekend ☐ Public Holiday

Timeband

00:00 to 00:59

About the project

- Executive Summary 2015
- ED-specific incident reporting
- How does EMER work?
- What does EMER collect?
- The pilot study

EMER.ORG.AU

Incident Report

*Page **3** of 4*

What happened? *

What were the contributing factors?

What were the factors that reduced the impact of the incident?

What were the consequences or outcomes of the incident?

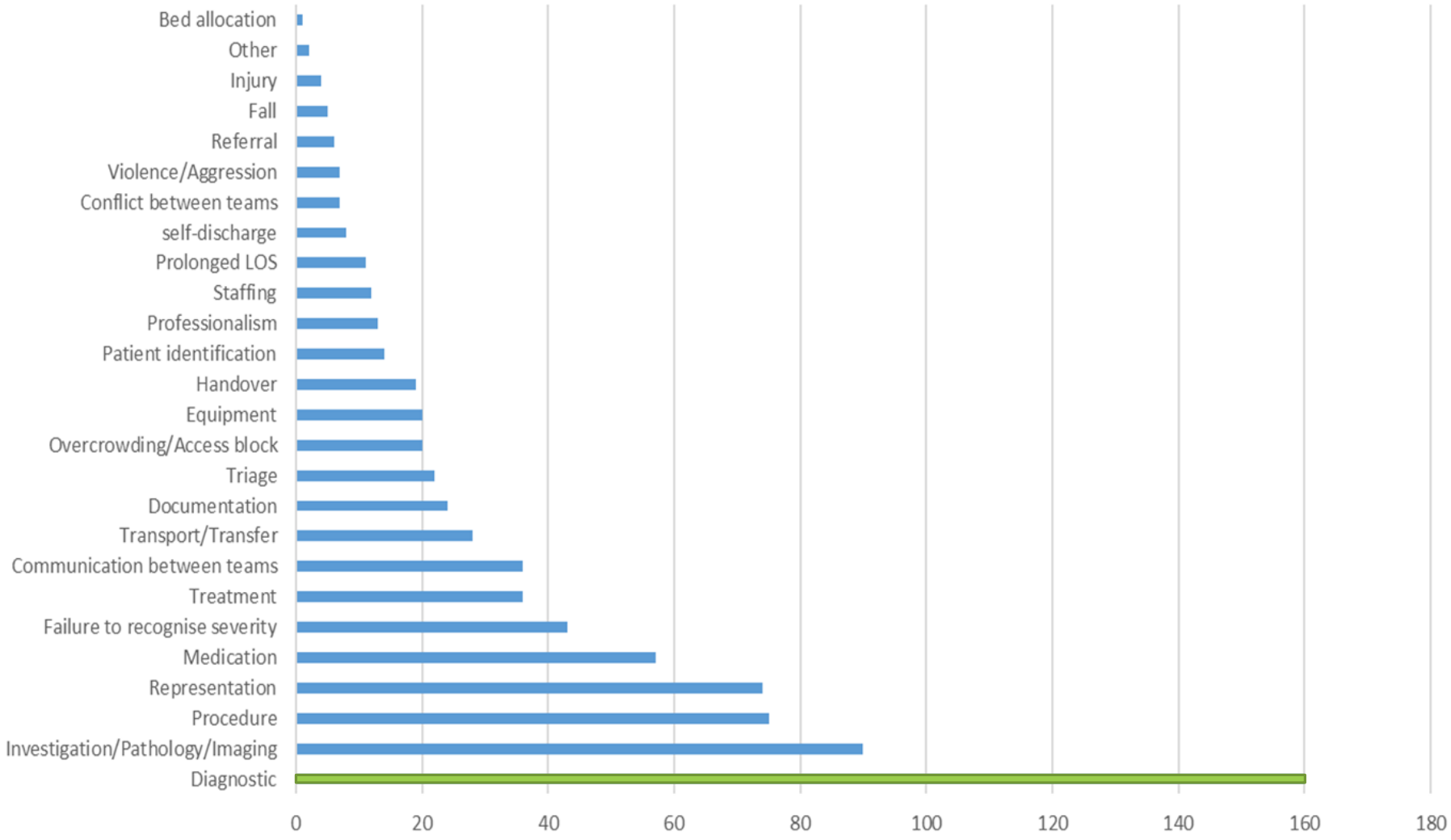
How could the incident have been prevented?

View our current safety alert

About the project

- Executive Summary 2015
- ED-specific incident reporting
- How does EMER work?
- What does EMER collect?
- The pilot study

Natural Category of Incident



EMA Emergency Medicine Australiasia

Original Research

The Emergency Medicine Events Register: An analysis of the first 150 incidents entered into a novel, online incident reporting registry

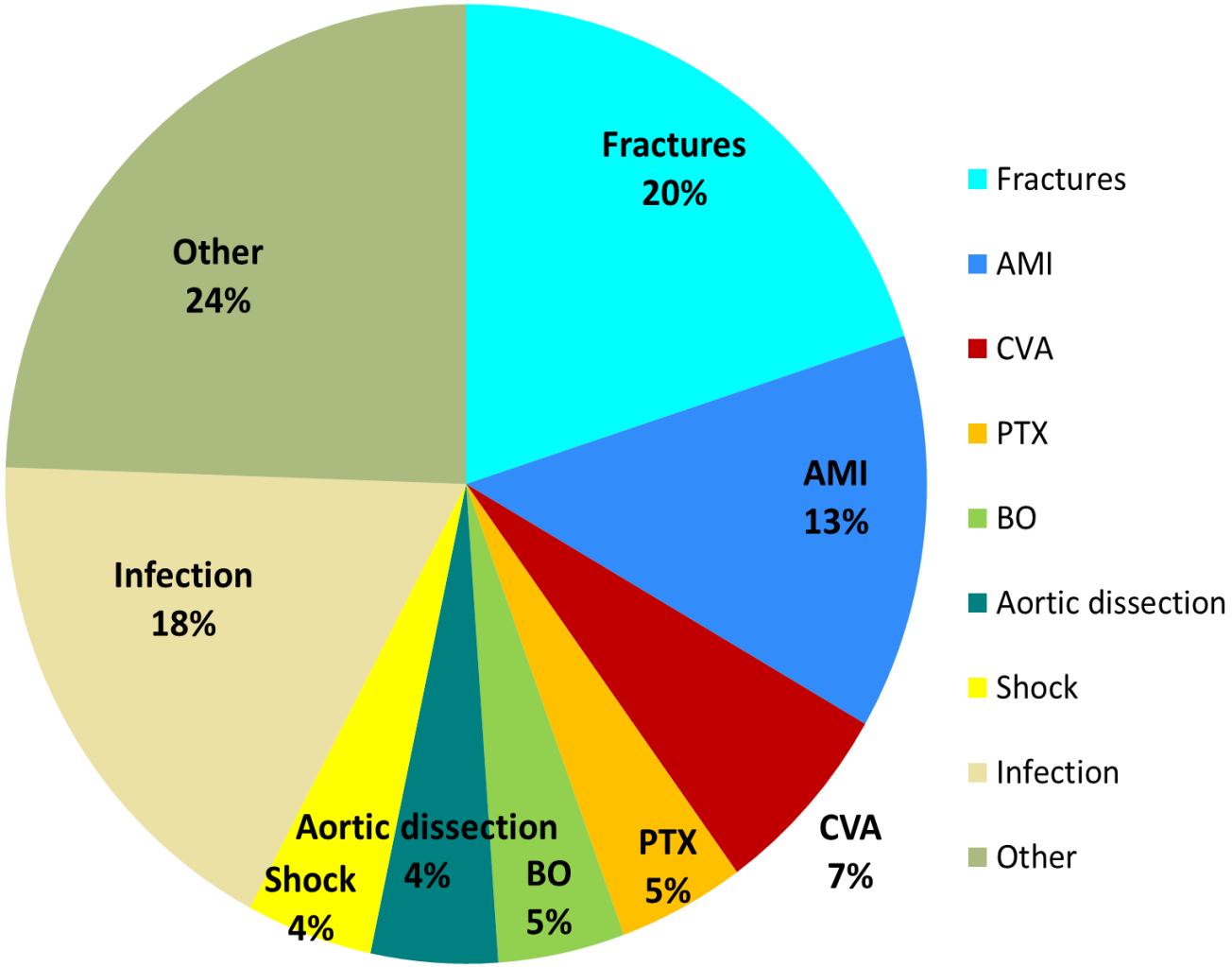
Kim Hansen, Timothy Schultz, Carmel Crock, Anita Deakin, William Runciman, Andrew Gosbell

First published: 31 July 2016 | https://doi.org/10.1111/1742-6723.12620 | Cited by: 4

Kim Hansen, MBBS (Hons I), FACEM, Emergency Consultant; Timothy Schultz, BSc (Hons I), PhD, Research Fellow; Carmel Crock, MBBS, FACEM, ED Director; Anita Deakin, BAppSci (Nurs), Research Fellow; William Runciman, BSc (Med), MBBCh, FANZCA, FJFICM, FHKCA, FRCA, PhD, President; Andrew Gosbell, PhD, Director of Policy and Research, Deputy CEO.

Read the full text > PDF TOOLS SHARE

Diagnostic Incidents



EMA Emergency Medicine Australasia

Case Letter | Free Access

Diagnostic error: Missed fractures in emergency medicine

Anita Deakin, Timothy J Schultz, Kim Hansen, Carmel Crock

First published: 19 November 2014 | https://doi.org/10.1111/1742-6723.12328 | Citations: 2

SECTIONS PDF TOOLS SHARE

The following incident was submitted to the Emergency Medicine Events Register (EMER – http://www.emer.org.au). EMER is an anonymous, confidential and protected incident-reporting system that is supported by ACEM. Anyone working in emergency medicine can enter a near miss or AE by following the link from the website. It should only take 5 min and will help to inform practice and improve patient safety in emergency medicine.

The case presented in Box 1 demonstrates the failure of an ED registrar to correctly identify a triquetral fracture on X-ray. A diagnostic error is broadly defined as any mistake or failure in the diagnostic process leading to a misdiagnosis, a missed diagnosis or a delayed diagnosis. Failure to diagnose a fracture accounts for up to 80% of ED diagnostic errors,1 occurs in 1% of all ED visits in a Norwegian hospital2 (when 3% of fractures were missed) and is a leading cause of litigation.1 The rate of missed fractures in emergency radiology is

Volume 27, Issue 2
April 2015
Pages 177-178

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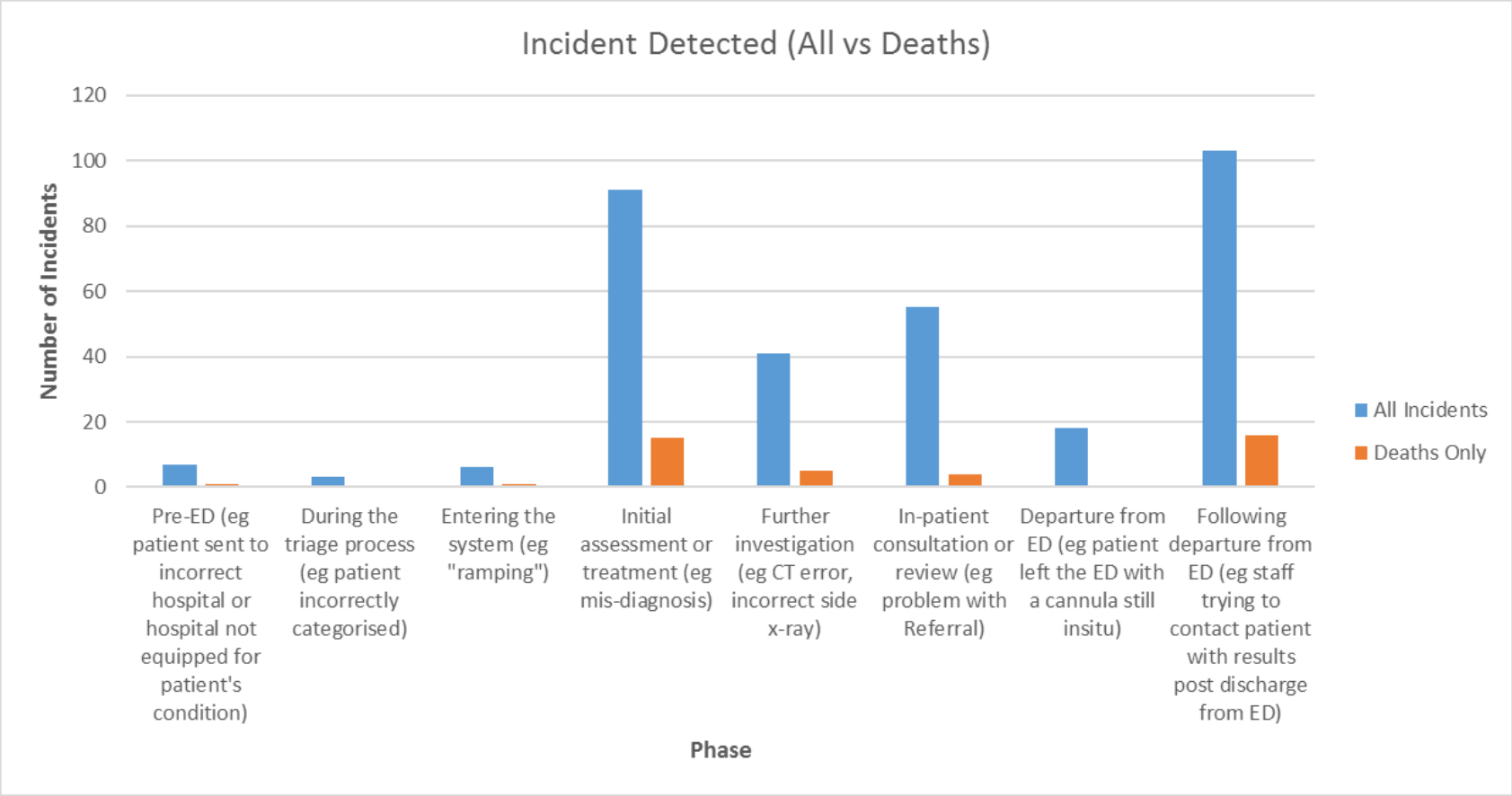
References Related Information

STAGE OF INCIDENT DETECTION



AMBULANCE SERVICE + DIAGNOSTIC ERROR

- Access /Ramping
- Miscommunications –'lost' information
- Failure to appreciate/communicate severity
- Inter-hospital transfer – delay in time-critical diagnoses

MEDICAL IMAGING + DIAGNOSTIC ERROR

- Delayed and amended reports
- After hours access to CT/MRI
- Incidental findings not followed up
- **ED** reading of CT – finding error (near misses)

GENERAL SURGERY + DIAGNOSTIC ERROR

- Delay in surgical assessment as registrar in theatre
- Phone advice
- “Non surgical” abdomen admitted under medicine
- Over-reliance on CT report

SUSPECTED TESTICULAR TORSION

- Misdiagnosis and delays to diagnosis
- Delays caused by obtaining ultrasound
- Adult v. paediatric and urology v. general surgery
- Delays caused by transfer

EMER

Emergency Medicine Events Register

Patient Safety Alert

Subject: Testicular Torsion

Testicular torsion in young males is over-represented in the EMER database. Currently, 3% of incidents (7/235) involved a probable testicular torsion. All incidents in the EMER database are coded into categories by an expert panel. The most common incident categories in reports involving torsion is **delay to treatment, conflict between teams** and **diagnostic error**.

The management of testicular torsion is rapid surgical exploration to maximise the chance of a positive outcome. The patient should be given analgesia and kept fasted. Ultrasound scanning should not delay surgical exploration.[1] Referral and treatment pathways should be established by the ED Leadership team in advance.

Patient Safety Alert No. 1 /09/11/2015. **Follow us on Twitter at @EmergMedER** Information obtained from Emergency Medicine Events Registry – an online, anonymous incident reporting system for Emergency Department doctors in Australia and New Zealand. Contact: emer@acem.org.au. Reference: 1. Deakin, A. and Shepherd, M. (2015), 'Knickers in a twist'. Emergency Medicine Australasia. doi: 10.1111/1742-6723.12473

EMER

Emergency Medicine Events Register

Patient Safety Alert

Subject: Aortic Dissection

Aortic Dissection is over-represented in the EMER database. Currently, 2% of incidents (5/272) involve an aortic dissection. The incident categories in reports involving aortic dissections are **diagnostic error** and **delay to treatment**.

The diagnosis of aortic dissection can be difficult because the patients present with atypical chest, abdominal or back pain, with or without limb symptoms. In some patients, the pain resolves. All five EMER patients were put on an "ACS rule-out" pathway with ECGs and troponin. One patient had a normal VQ after a positive d-dimer. Equal bilateral BPs and the absence of mediastinal widening on CXR are not sufficiently accurate to rule out an aortic dissection.[1] A delayed diagnosis can be fatal – two EMER patients were found deceased in the days after discharge from ED.

Patient Safety Alert No. 2. 25/05/2016. **Follow us on Twitter at @EmergMedER** Information obtained from Emergency Medicine Events Registry – an online, anonymous incident reporting system for Emergency Department doctors in Australia and New Zealand. Contact: emer@acem.org.au.

1.http://lifeinthefastlane.com/ccc/acute-aortic-dissection/

EMER

Emergency Medicine Events Register

Patient Safety Alert

Subject: Airway Management

Adverse events in airway management are over-represented in the EMER database. Currently, 11% of EMER reports(30/270) involved an incident relating to intubation. All incidents in the EMER database are coded into categories. The most common types of airway incidents are **CICO** ('can't intubate, can't oxygenate), **medication errors** and **delay to decision to intubate**. Outcomes included unrecognised oesophageal intubation, surgical airway, crico-thyroidotomy and 5 deaths (16.7% of airway incidents).

Advanced airway management remains a high risk procedure in Emergency Departments. To reduce errors a number of strategies can be utilised including equipment standardisation, simulation, selection of experienced practitioners, and use of a pre-intubation checklist and difficult airway algorithm.[1]

Patient Safety Alert No. 3. 06/09/2016. **Follow us on Twitter at @EmergMedER** Information obtained from Emergency Medicine Events Registry – an online, anonymous incident reporting system for Emergency Department doctors in Australia and New Zealand. Contact: emer@acem.org.au. Reference: 1. Fogg et al, The Royal North Shore Hospital Emergency Department airway registry: closing the audit loop. Emergency Medicine Australasia (2016) 28, 27–33

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LEARNING MORE

SHARE THE ERROR

the Ottawa M&M Model:

A Guide to Enhancing Morbidity & Mortality Rounds

Included in this package:

For Presenters

- Case Selection and Analysis guide
- Presentation Preparation template
- Tips for enhancing your session

For Facilitators

- Guide to preparing for and administering M&M rounds
- Recommendations on moderating M&M rounds
- Tips for increasing the effectiveness of M&M rounds

Version 2.0
Dec 2016

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US National Library of Medicine
National Institutes of Health

PubMed Advanced

Format: Abstract Send to

Acad Emerg Med. 2014 Mar;21(3):314-21. doi: 10.1111/acem.12330.

Enhancing the quality of morbidity and mortality rounds: the Ottawa M&M model.

Calder LA[1], Kwok ES, Adam Cwinn A, Worthington J, Yelle JD, Waggott M, Frank JR.

Author information

1 The Department of Emergency Medicine, University of Ottawa, Ottawa, Ontario, Canada; The Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada.

Abstract

OBJECTIVES: The objective of this study was to determine the feasibility and acceptability of a structured morbidity and mortality (M&M) rounds model through an innovative educational intervention.

METHODS: The authors engaged the Departments of Emergency Medicine (EM) and Trauma Services at a tertiary care teaching hospital. A needs assessment was performed; the Ottawa M&M rounds model was developed, implemented, and then evaluated as a four-part intervention. This consisted of: 1) physician training on case selection and analysis, 2) engaging interprofessional members, 3) disseminating lessons learned, and 4) creating an administrative pathway for acting on issues identified through the M&M rounds. The measures of intervention feasibility included the proportion of sessions adherent to the new model and M&M rounds attendance. Pre- and postintervention surveys of presenters and attendees were used to determine intervention acceptability. M&M presentation content was reviewed to determine the most frequently adopted components of the model.

RESULTS: Nine of 14 (64.3%) sessions were adherent to three of four components of the Ottawa M&M Model. Of those M&M attendees who responded to the survey (796 of 912, 87.2%), improvements were found in M&M rounds attendance as well as perceived effect on clinical

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Communicating for safer diagnosis

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EMA Emergency Medicine Australasia

Trainee Focus

Error and safety in Emergency Medicine

Carmel Crock, Kim Hansen

First published: 09 July 2019 | https://doi.org/10.1111/1742-6723.13348

Carmel Crock, MBBS, FACEM, B.Litt., Director; Kim Hansen, MBBS (Honsl), MBA, FACEM, Director of Emergency Services.

PDF TOOLS SHARE

TABLE 1. *Examples of error-producing conditions and system solutions*

Error-producing condition	System solution
Speciality specific factors	
Diagnostic uncertainty	Operationalise proactive follow up (e.g. phone call, arrange GP visit), patient /family engagement in diagnostic process, share uncertainty with patients, discuss uncertainty openly with other clinicians
Poor feedback	Regular feedback on diagnoses, discharge summaries automatically sent to ED provider
Procedures performed infrequently	Simulation training, upskilling in other departments or institutions
Surge phenomenon	Surge planning, effective escalation strategies with whole of hospital responsiveness, ambulance load-sharing
Departmental factors	
Handover/transitions of care	Use these as a checkpoint for cross-checking, opportunity for collegiate discussion
Inadequate staffing	Number and seniority of staff dictated by number/ complexity of presentations, easy access to expertise
Lack of supervision	Define ideal levels and methods of supervision, use simulation, develop competencies for diagnosis and procedures, mandated consultant opinions in key areas, use of telemedicine, ready access to sub-speciality expertise
Shift work fatigue	Incorporate best-practice rostering, with individual flexibility, adequate notice and transparency across the department, education on burnout, ready access to assistance
Individual factors	
High cognitive load	Regular breaks, group diagnosis, defer unnecessary decisions, utilisation of clinical pathways
Frequent interruptions	No interruption zone during procedures, medication administration and other activities with a high cognitive load
High noise levels	ED designed with noise dampeners, attention to noise pollution

WHAT CONDITIONS DO WE NORMALISE?

OVERCROWDING = BUSY ED NOT SAFE

SUPERVISION (*HOW WE SUPERVISE*/RATIO JUNIOR TO SENIOR)

INEXPERIENCE / ACCESS TO EXPERTISE

SHIFT WORK FATIGUE = POOR DECISION MAKING

SHARE THE ERROR

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