

# **RCA CAUSAL STATEMENT**

## **META-ANALYSIS**

**May 07 – June 08**

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## **EXECUTIVE SUMMARY**

### ***Background***

*Root Cause Analysis (RCA) causal statements are typically highly specific to the incident. By exploring the more general aspects of each incident, improvements with a much wider effect can be identified. Also, by mapping every causal statement to a system-level action, risk due to incomplete local action is much reduced.*

*74 RCA reports from between May 2007 and June 2008 were analysed, covering 420 separate causal statements, identifying 424 system issues looking at operational and strategic issues.*

### ***Findings***

*The major operational issues (>=5% of causal statements) were:*

- 1. Failure to follow policies/procedures/guidelines*
- 2. No current clinical policies/procedures/guidelines*
- 3. Failure to recognise patient clinical care needs*
- 4. Information sharing within the clinical team members*
- 5. Patient complexity with multiple co morbidities*
- 6. Lack of coordination and leadership patient's care*
- 7. Failure to meet documentation standards*
- 8. Information sharing across clinical teams*
- 9. No training in place for clinical situation*
- 10. Patient identification*
- 11. Failure of system to identify training needs of staff*
- 12. Failure to escalate care*

*The major strategic level issues were (in descending order of frequency)*

- 1. Policy Procedures Guidelines (failure to follow, no policies, lack of implementation)*
- 2. Communication (within teams, coordination & leadership, documentation)*
- 3. Knowledge, Skills, Competency (Failure to recognise patient clinical care needs, no training program in place for clinical situation),*
- 4. Environment and work scheduling (insufficient staff to patient ratio workload and skill mix miss match, Inefficient processes to support clinicians*
- 5. Patient Factors (patient complexity)*
- 6. Equipment (inappropriate for task)*

*Full details are provided in the attached paper*

## **Recommendations**

*The Health Care Quality Committee and Area Executive Committee:*

1. *Review the analysis.*
2. *Develop a risk management strategy for the identified issues. This may entail:*
  - a. *Agree/assign area-level ownership, responsibility and timelines for dealing with the issues*
  - b. *Where possible, using existing projects, programs and activities to take the issues forward*
3. *Consider what, if any, additional projects/ programs are required Refer the operational level issues to the Clinical Council for advice and action*
4. *Track the issues through the risk register*
5. *Review progress every six months*
6. *The progress of action on the previous meta analysis recommendations of July 05- April 07 be noted*

## RCA causal statement meta-analysis

Root Cause Analysis (RCA) causal statements are typically highly specific to the incident. While this is valuable, the precise circumstances are statistically unlikely to recur. By exploring the more general aspects of each incident, improvements with a much wider effect can be identified and the risk of similar issues arising elsewhere in the area is reduced<sup>1</sup>.

Seventy-four (n=74) RCA reports from between May 2007 and June 2008 were analysed, covering 420 separate causal statements. Table 1 indicates the Principal incident types of the RCA's conducted. Recognising that responses may be required at both operational and strategic levels, a two stage process was used to identify the more general issue to which each causal statement referred.

Table 1. Number of RCA's conducted by Principal Incident Type (PIT)

No. of RCA's	IIMS PIT
32	Clinical Management
29	Behaviour
4	Falls
6	Medications/IV
1	Medical Devices
1	Organisation
1	Other
<b>74</b>	

### Operational level analysis

The first level of analysis sought issues requiring operational action (e.g. at a divisional or facility level). Table 2a indicates the top 7 issues, make-up 80% of the 420 causal statements. These top 7 cover 3 main systems, Policy, Procedure & Guidelines, Communication and Knowledge, Skills & Competencies.

Table 2b indicates that “communication” issues and “policies, procedures & guidelines” cover 2/3<sup>rd</sup> of the causal statements implicated in serious adverse incidents:

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<sup>1</sup> Furthermore, because the method maps each and every causal statement to a system-level action, risk is reduced should locally based action be incomplete.

**Table 2a: Top Operational issue analyses by FREQUENCY**

Operational Issue	Count	%	Cum %	System
Failure to follow polices/procedures/guidelines	51	19	19	Policies Procedures Guidelines
No current clinical polices/procedures/guidelines	43	16	35	Policies Procedures Guidelines
Failure to recognise patient clinical care needs	39	14	49	Knowledge Skills Competency
Information sharing within the clinical team members	36	13	62	Communication
Patient complexity with multiple co morbidities	18	7	69	Policies Procedures Guidelines
Lack of coordination and leadership patient's care	16	6	75	Communication
Failure to meet documentation standards	15	5	80	Communication
Information sharing across clinical teams	12	4	84	Communication
No training in place for clinical situation	11	4	88	Knowledge Skills Competency
Patient identification	10	4	92	Communication
Failure of system to identify training needs of staff	10	4	96	Knowledge Skills Competency
Failure to escalate care	10	4	100	Communication
<b>Total</b>	<b>271</b>	<b>100</b>		

**Table 2b Top Operational issues by KEY SYSTEM**

Issues identified causal statements	System						
	Knowledge Skills Competency	Policies Procedures Guidelines	Communication	Work environment & Scheduling	Patient factors	Equipment	
Failure to follow polices/procedures/guidelines		51					
Failure to recognise patient clinical care needs	39						
No current clinical polices/procedures/guidelines		43					
Insufficient staff to patient ratio				10			
Inefficient process to support clinicians				9			
Workloads and skill mix miss-match				7			
No training in place for clinical situation	11						
Information sharing within the clinical team members			36				
Lack of implementation of polices/procedures/guidelines		8					
Information sharing across clinical teams			12				
Lack of coordination and leadership patient's care			16				
Patient complexity with multiple co-morbidities					18		
Patient identification			10				
Failure to escalate care			10				
Failure to meet standards of documentation			15				
Failure of system to identify training needs of staff	10						
Inappropriate for task						3	
Total count	<b>58</b>	<b>102</b>	<b>99</b>	<b>26</b>	<b>18</b>	<b>3</b>	<b>306</b>
<b>Total %</b>	<b>19%</b>	<b>34%</b>	<b>32%</b>	<b>8%</b>	<b>6%</b>	<b>1%</b>	<b>100</b>

## SYSTEM: Policies, procedures & guidelines issue analysis

Count	Policies/Procedure/Guidelines issue	%	Cumm %
51	Failure to follow clinical policies/procedures/guidelines	42	42
43	No current clinical polices/procedures/guidelines	35	77
8	Lack of implementation of clinical polices/procedures /guidelines	7	84
7	Polices/procedures/guidelines unworkable/impracticable/unclear	6	90
6	Out of date clinical policies/procedures/guidelines	5	95
3	Lack of awareness clinical polices/procedures/guidelines	2	97
2	Lack of education clinical polices/procedures/guidelines	2	99
1	Lack of access to clinical polices/procedures/guidelines	1	100
<b>121</b>		<b>100</b>	

### Analysis of Top 3 Policy, Procedures & Guidelines issues

<b>Failure to follow clinical policies, procedures &amp; guidelines</b>	<b>42%</b>
<ul style="list-style-type: none"> <li>• falls</li> <li>• correct patient/procedure/site policy</li> <li>• patient identification</li> <li>• medication administration</li> <li>• suicide risk assessment</li> </ul>	
<b>No current clinical polices/procedures/guidelines</b>	<b>35%</b>
<ul style="list-style-type: none"> <li>• General:               <ul style="list-style-type: none"> <li>○ staffing/ rostering in the ED</li> <li>○ radiology procedures</li> <li>○ patient ID in radiology</li> <li>○ timing of pre op assessment for complex pts</li> </ul> </li> <li>• Mental Health:               <ul style="list-style-type: none"> <li>○ communications between health care professionals,</li> <li>○ staff leave coverage,</li> <li>○ follow-up of pts non attendance at appointments,</li> <li>○ medical records retrieval,</li> <li>○ engagement of difficult clients</li> </ul> </li> <li>• Medications:               <ul style="list-style-type: none"> <li>○ Heparin use in pulmonary embolism</li> <li>○ medication phone orders</li> </ul> </li> <li>• Maternity:               <ul style="list-style-type: none"> <li>○ assessment by consultants</li> <li>○ Foetal heart rate monitoring</li> </ul> </li> </ul>	
<b>Lack of implementation of clinical polices/procedures /guidelines</b>	<b>7%</b>
<ul style="list-style-type: none"> <li>• patient identification in Radiology</li> <li>• post falls management</li> <li>• review of mental health patients follow up after initial review</li> <li>• patient identification and meal delivery</li> </ul>	

## RECOMMENDATIONS:

1. ***Reduced tolerance to failure to policy key patient safety policies***
2. ***The polices/protocols listed above all be actively reviewed by the relevant area directorate and amended as required***
3. ***Revise those polices listed as unworkable/impracticable/unclear***

## SYSTEM: Knowledge, Skills, Competency issues analysis

Count	Knowledge, Skills Competency Issue	%	Cum %
39	Failure to recognise patient clinical care needs	49	49
11	No training program in place for clinical situation	14	63
5	Failure of system to identify training needs of staff	6	69
5	Lack of appropriate level of supervision	6	75
4	Training program not evaluated for effectiveness	5	80
3	Inadequate monitoring of patient's condition	4	84
3	Failure to diagnose	4	88
3	Lack of defined care process	4	92
2	Poor clinical assessment	3	95
2	Lack of patient centred care	3	98
1	Clinician required to practice outside expected scope of practice	1	99
1	Unable to access available training program	1	100
<b>79</b>		<b>100</b>	

### Analysis of Top 3 Knowledge, Skills Competency issue analysis

<b>Failure to recognise patient clinical care needs</b>	<b>49%</b>
<ul style="list-style-type: none"> <li>• falls management</li> <li>• consent</li> <li>• medication history</li> <li>• supervising other staff</li> <li>• frequency of vital signs monitoring</li> <li>• role of the IPS</li> <li>• triage and pregnancy</li> <li>• use of MET</li> <li>• use of suicide risk assessment</li> <li>• completing a psychosocial assessment</li> </ul>	
<b>No training program in place for clinical situation</b>	<b>14%</b>
<ul style="list-style-type: none"> <li>• Dialysis management for APAC</li> <li>• Undertaking a pleural tap</li> <li>• Management of a foetus</li> <li>• early detection and management of critical illness in spinal injured patients</li> </ul>	
<b>Failure of system to identify training needs of staff</b>	<b>6%</b>
<ul style="list-style-type: none"> <li>• use of defibrillator by registrar</li> <li>• miscarriage management</li> <li>• emergency procedures activation by medical staff</li> </ul>	

## RECOMMENDATIONS:

- A systematic approach to the detection and management of deteriorating patients continued to be developed and implemented over 2008/09 and include the above listed system failures.***

## SYSTEM: Communication issues analysis

Count	Communication	%	Cumm %
36	Information sharing <i>within</i> the clinical team members	24	24
16	Lack of coordination and leadership patient's care	10	34
15	Failure to meet standards of documentation	10	44
12	Information sharing <i>across</i> clinical teams	8	52
10	Patient identification	6	58
10	Failure to escalate care	6	64
7	Inadequate information systems	5	69
7	Failure to document care given	5	74
6	Failure to involve patient or family in decision making	4	78
6	Failure to document assessment or management plan	4	82
5	Failure to follow up results	4	86
4	Failure to communicate patient clinical risks	3	89
4	Clinical handover practices	3	92
4	Poor form design	3	95
3	Failure to communicate transfer of care	2	97
2	Consent	1.5	98.5
1	Lack of checking various documents	0.5	99
1	Missing documents	0.5	99.5
1	Inability to access medical records	0.5	100
<b>150</b>		<b>100</b>	

### Analysis of Top 5 Communication issues

<b>Information sharing within the clinical team members</b>	<b>24%</b>
<ul style="list-style-type: none"> <li>• communication during "Team Time Out"</li> <li>• RMO seeking information about policies from nurses</li> <li>• follow-up of MH patients and discussion of all active patients at team meetings</li> <li>• phone orders</li> <li>• results of ECG's, X rays/scans</li> <li>• RMO's contacting consultants</li> <li>• lack of documenting family &amp; carers discussions</li> <li>• misunderstanding medication chart administration codes</li> </ul>	
<b>Lack of coordination and leadership patient's care</b>	<b>10%</b>
<ul style="list-style-type: none"> <li>• GP shared care model governance</li> <li>• deteriorating children in the ED</li> <li>• transfer of care between teams</li> <li>• medical staff supervision</li> <li>• pre operative assessment coordination</li> <li>• follow-up of results</li> </ul>	
<b>Failure to meet documentation standards</b>	<b>10%</b>
<ul style="list-style-type: none"> <li>• Documenting co morbidities</li> <li>• Documenting investigations performed</li> <li>• Documenting management plan</li> <li>• Warfarin &amp; NIMChart</li> <li>• Documentation of observations</li> </ul>	
<b>Information sharing across clinical teams</b>	<b>8%</b>
<ul style="list-style-type: none"> <li>• MET criteria</li> <li>• ED's and community care services</li> <li>• GP's for mental health patients,</li> <li>• communication between specialised mental health services</li> <li>• communicating about outlier patients on other wards</li> </ul>	

<b>Patient Identification (ID)</b>	<b>6%</b>
<ul style="list-style-type: none"> <li>• Patient ID in medical Imaging,</li> <li>• role of PSA and patient identification</li> <li>• escorting the wrong patient for a procedure</li> <li>• patients with similar names</li> </ul>	
<b>Failure to escalate care</b>	<b>6%</b>
<ul style="list-style-type: none"> <li>• Falls management</li> <li>• management of agitated and delirious patient</li> <li>• failure to continue observations</li> <li>• use of MET</li> </ul>	

**RECOMMENDATIONS:**

- 1. The soon to be released revised NSW Health documentation policy be implemented upon release***
- 2. Continue active implementation of the Patient Identification policy***
- 3. The possibility of developing some generic guidelines on handover be explored***

**SYSTEM: Environment and Scheduling issue analysis**

Count	Environment and Scheduling	%	Cum %
10	Insufficient staff to patient ratio	28	28
9	Inefficient processes to support clinicians	25	53
7	Workload and skill mix miss match	19	72
6	Work scheduling of staff inappropriate	16	88
2	Clinical environment not suitable for patient care needs	6	94
2	Clinical environment busy, noisy, cramped	6	100
<b>36</b>		<b>100</b>	

**Analysis of Top 3 Environment and Scheduling issues**

<b>Insufficient staff to patient ratio</b>	<b>28%</b>
<ul style="list-style-type: none"> <li>• Emergency department staffing</li> <li>• Paediatric Registrars on night duty for ED</li> <li>• Birthing unit staffing</li> <li>• Emergency Registrars on night duty</li> <li>• GP Shared care staffing case loads</li> <li>• Weekend cover by Registrars</li> </ul>	
<b>Inefficient processes to support clinicians</b>	<b>25%</b>
<ul style="list-style-type: none"> <li>• Loss of x-rays</li> <li>• Delays in filing system of results into medical records</li> <li>• Process of 2 Request for admission forms</li> <li>• Person dependent system for deleting images</li> <li>• Availability &amp; timeliness of x-ray reports</li> <li>• Flagging system for review of patients in mental health</li> </ul>	
<b>Workload and skill mix miss match</b>	<b>19%</b>
<ol style="list-style-type: none"> <li>1. Number of staff to fulfil role of MET</li> <li>2. Triage cat 2 Paediatric patient placement routine bay</li> <li>3. Paediatric Registrars workload</li> <li>4. RMOs skills in reviewing ECG's</li> <li>5. Team Time Out</li> <li>6. PY 2 RMO covering wards on night duty</li> </ol>	

**RECOMMENDATIONS:**

1. ***Minimum standards for medical cover be developed, especially at consultant and registrar level (outstanding from previous meta analysis)***
2. ***Responsibility for ensuring adequate medical staff cover be clearly defined (outstanding from previous meta analysis)***
3. ***The MET issues be include in the work on managing deteriorating patients***

## SYSTEM: Patient Factors issue analysis

Count	Patient Factors	%	Cumm %
18	Patient complexity with multiple co morbidities	70	70
4	Cultural, linguistic, diversity issues	15	85
4	Managing patient clinic risks	15	100
26		100	

### Analysis of Top 2 Patient Factors issue analysis

Patient complexity with multiple co morbidities	70%
<ul style="list-style-type: none"><li>• Mental health conditions, changeability of risk of suicide, client engagement with treatments, psychosis</li><li>• Obesity</li><li>• Polysubstance abuse</li><li>• Extent of co morbidities not realised</li><li>• Confusion and falls risks</li><li>• Rare condition not diagnosed</li></ul>	
Cultural, linguistic, diversity issues	15%
<ul style="list-style-type: none"><li>• Overseas student status</li></ul>	

## RECOMMENDATIONS:

1. *Patient factors and risk analysis be include in the Clinical Redesign & CGU project "Risky Business".*

**SYSTEM: Equipment issue analysis**

Count	Equipment issues	%	Cumm %
3	Inappropriate for the task	34	34
2	Incorrect/inadequate use	22	56
2	Poor maintenance program	22	78
1	Unavailability of equipment to support patient care needs	11	89
1	Technically and physically inaccessible	11	100
<b>9</b>		<b>100</b>	

**Inappropriate for the task****34%**

- Guide wire use
- Oral medication storage bottle – difficult to measure dosage of morphine

**RECOMMENDATIONS:**

1. *The Clinical Excellence Commission's Safe Insertion Central Venous Catheters (CVC's) In NSW Intensive Care Units to be implemented during 2008/09.*

## **Strategic level analysis**

This level of analysis sought issues potentially needing strategic (typically area-level) attention. Of the 420 causal statements, 53% can be grouped into 3 broad system failures namely:

1. lack of coordinating and communicating patient care needs
2. failure to recognise and manage the deteriorating patient
3. and lack of patient centred care

### **System Failure 1. Lack of coordination of care and communicating patient care needs**

Table 1 further identifies across all causal statements, of the major problems of ineffective communication across and within the clinical teams, a lack of structure and common processes to facilitate good communication, and inadequate information sharing systems. Documentation is a major issue.

<b>Table 1. Communicating/coordinating patient care</b>		
C5	12	Information sharing across clinical teams
C11	16	Lack of coordination and leadership in patient's care
C3b	6	Failure to document assessment or management plan
C8	6	Failure to involve patient or family in decision making
C2	36	Information sharing within the clinical team members
C10	7	Inadequate information systems
C9	4	Clinical handover practices
C7	4	Failure to communicate patient clinical risks
C12	3	Failure to communicate transfer of care
C3f	7	Failure to document care given
C3d	1	Missing documents
C3c	1	Illegible documentation
	<b>103</b>	

### **System Failure 2. Recognising and managing the deteriorating patient**

Table 2 further identifies across all causal statements the failure to detect the deteriorating patient such as:

- clinical skills assessment and diagnosis
- monitoring patients
- and failure to act upon changes to patient conditions

<b>Table 10. Deteriorating patients</b>		
KSC1	39	Failure to recognise patient clinical care needs
C4	10	Failure to escalate care
KSC8	2	Poor clinical assessment
C7	4	Failure to communicate patient clinical risks
KSC9	3	Inadequate monitoring of patient's condition
KSC6	3	Failure to diagnose
	<b>61</b>	

### System Failure 3. Lack of patient centred care approach

Table 3 identifies a need to involve patient and families in care planning and decision making, and coordinating the care of the patient with the patient needs as the focus. In addition managing the risks associated with complex patients.

Table 3. Lack of patient centred care		
C8	6	Failure to involve patient or family in decision making
PF1	18	Patient complexity with multiple co morbidities
KSC4	2	Lack of patient centred care
C1	10	Patient identification
C11	16	Lack of coordination and leadership patient's care
KSC5	3	Lack of defined care process
PF5	4	Cultural, linguistic, diversity issues
	<b>59</b>	

### Suggested action

It is recommended that the Health Care Quality Committee and Area Executive Committee:

1. Consider the merits of the analysis.
2. To the extent that the analysis is accepted, to:
  - a. Consider which existing projects, programs and activities are suitable vehicles for taking the issues forward
  - b. Consider what, if any, additional projects/ programs are required
  - c. Agree/assign area-level ownership and responsibility for dealing with the issues
3. Refer the operational level issues to the Clinical Council for advice and action.
4. Enter the issues in the risk register
5. Review progress in six months

Christine Conn, Patient Safety Program Manager  
Philip Hoyle, Director, Clinical Governance

**Health Care Quality Committee  
Recommendations from  
RCA Causal Statement Meta Analysis Report May 07- June 08**

<b>System</b>	<b>Recommendation</b>	<b>Referral to</b>	<b>Action officer</b>	<b>Due date</b>	<b>Status</b>
<b>Policies, Procedures, Guidelines analysis</b>	Reduced tolerance to failure to policy key patient safety policies				
<b>Policies, Procedures, Guidelines analysis</b>	The polices/protocols listed all be actively reviewed by the relevant area directorate and amended as required				
<b>Policies, Procedures, Guidelines analysis</b>	Revise those polices listed as unworkable/impracticable/unclear				
<b>Knowledge, Skills, Competency analysis</b>	A systematic approach to the detection and management of deteriorating patients continued to be developed and implemented over 2008/09 and include the above listed system failures.				
<b>Communications analysis</b>	The soon to be released revised NSW Health documentation policy be implemented upon release				
<b>Communications analysis</b>	Continue active implementation of the Patient identification policy				
<b>Communications analysis</b>	The possibility of developing some generic guidelines on handover be explored				
<b>Environment and Scheduling issue analysis</b>	Minimum standards for medical cover be developed, especially at consultant and registrar level (outstanding from previous meta analysis				
<b>Environment and Scheduling issue analysis</b>	Responsibility for ensuring adequate medical staff cover be clearly defined (outstanding from previous meta analysis)				
<b>Environment and Scheduling issue analysis</b>	The MET issues be include in the work on managing deteriorating patients				
<b>Patient Factors analysis</b>	Patient factors and risk analysis be include in the Clinical Redesign & CGU project "Risky Business".				
<b>Equipment analysis</b>	The Clinical Excellence Commissions Insertion of central line and its credentialing process to be implemented during 2008/09.				

**Health Care Quality Committee  
Recommendations from  
RCA Causal Statement Meta Analysis Report July 05- April 07**

<b>System</b>	<b>Recommendation</b>	<b>Outcome</b>	<b>Status</b>
<b>Policies, Procedures, Guidelines analysis</b>	The polices listed above all be actively reviewed by the relevant area directorate and amended as require	26 PPG were listed. 23 of the 25 (92%) have been either new developed or revised in the past 2 years	92% completed
<b>Policies, Procedures, Guidelines analysis</b>	Health Service Policy committees/ AHS Policy & Procedure Implementation Committee to review access to all NSCCAHS policies	2 unable to locate " Telemetry" - GMTC is developing a policy "Biopsy results follow-up" 1 in draft "Documentation"- await new NSW Health policy due for release the next few months	
<b>Policies, Procedures, Guidelines analysis</b>	Revise those polices listed as unworkable/impracticable/unclear		
<b>Knowledge, Skills, Competency analysis</b>	A systematic approach to the detection and management of deteriorating patients be developed and implemented over 2007/8	In progress in 2 parts a. "Risky Business" project led by CRD & CGU commenced July 08 (Clinical risk assessment) b. MDP workshop on Rescue system is planned	In progress
<b>Communications analysis</b>	A strategic approach be developed to ensuring good handover of care	<b>No action to date</b>	<b>Outstanding</b>
<b>Communications analysis</b>	The eMR be rolled out as matter of urgency	PAS module of eMR implemented.	100% Completed
<b>Environment and Scheduling analysis</b>	Minimum standards for medical cover be developed, especially at consultant and registrar level	<b>No action to date</b>	<b>Outstanding</b>
<b>Environment and Scheduling analysis</b>	Responsibility for ensuring adequate medical staff cover be clearly defined	<b>No action to date</b>	<b>Outstanding</b>
<b>Patient Factors analysis</b>	Systems for care of medically complex mental health patients be verified	Service agreements between MH & D&A reviewed One more effective shared care will be further enhanced, by way of attending relevant meetings, reviews etc. Also the GP Shared Care Program includes target strategies to improve the access of appropriate medical care and which will result in improved access to allied health, diabetes and dental services etc. Action is being taken to re-establish the Area MH GP Liaison position since last incumbent left.	100% Completed
<b>Equipment analysis</b>	The availability of pressure relieving devices be ensured	Anecdotal evidence suggests high level of availability, however at times a reluctance by NUM's to order mattresses for patients due to costs . To be monitored by Patient Care & Environment Committee (PCEC) when established.	100% Completed