Clinical Excellence Initiatives to improve Healthcare Safety & Quality

An Insight into the importance of initiatives to improve clinical excellence, and how GS1 standards can facilitate this

Professor Cliff Hughes AO

21 March 2012


ISQua
The International Society
for Quality in Health Care

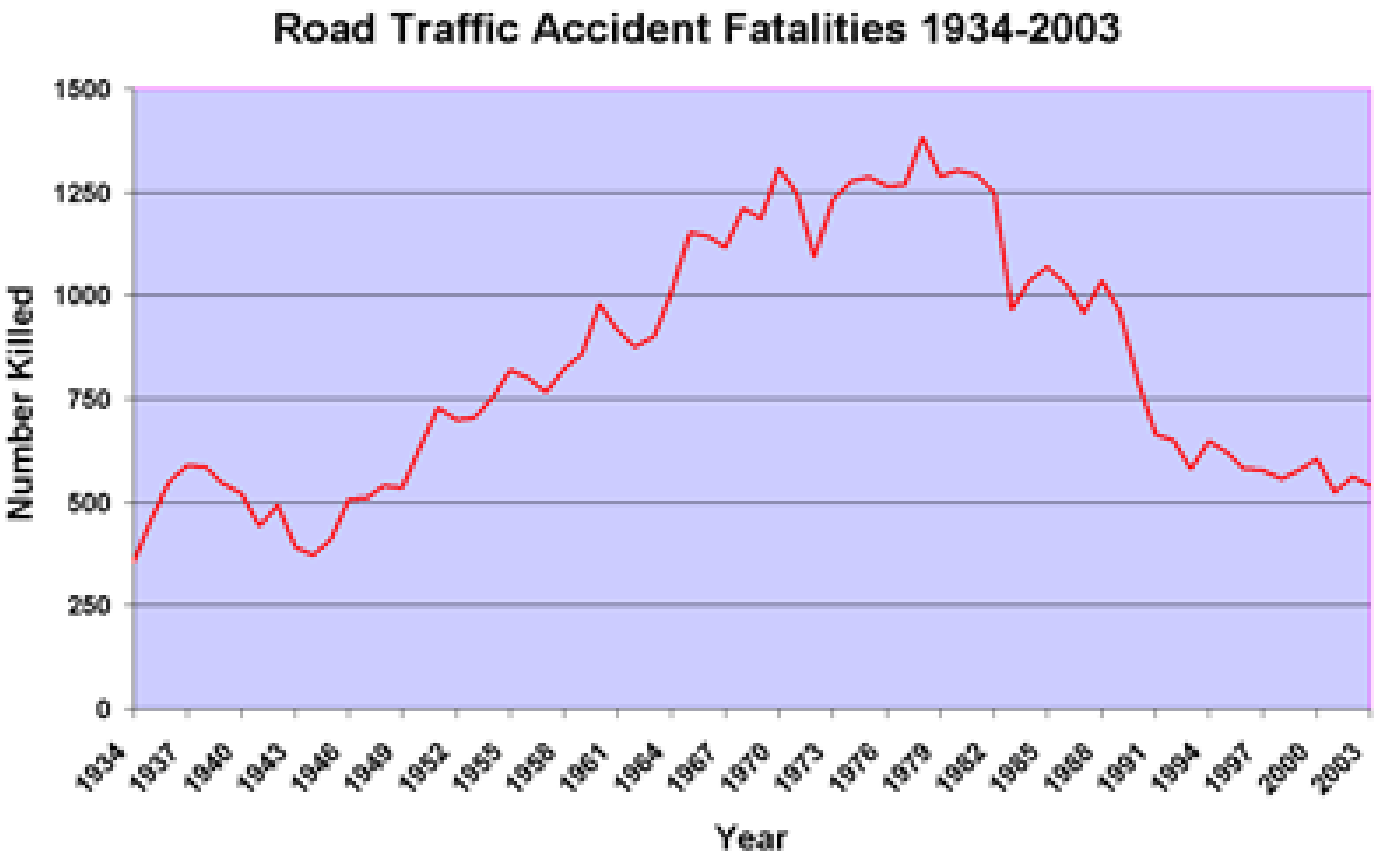
CLINICAL
EXCELLENCE
COMMISSION

CF Hughes: 21 March 2012

Accommodating Mistakes?

I cdnuolt blveiee taht I cluod aulaclty uesdnatnrd waht I was redanig. The phaonmneal pweor of the hmuan mnid. Aoccdrnig to rscheearch at Cmabrigde Uinervtisy, itd eosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it wouthit a porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Amzanig huh? yaeh and I awlyas thought slpeling was ipmorantt!

Safe Driving - NSW



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376

Mission

- To build confidence in health care by making it demonstrably better and safer for patients and a more rewarding workplace

The Role of the CEC

- To promote best practice systems for clinical quality and patient safety.
- To support Area Health Services in the implementation of their clinical systems
- To monitor the state of clinical quality and patient safety in the NSW Health system
- To provide education and training for clinicians, consumers and health managers on the implementation of clinical quality systems
- To provide advice to the Minister on matters relating to clinical quality and patient safety.

Clinical Governance:

"A framework through which … organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish." (Scally and Donaldson, 1998)

Call to Action

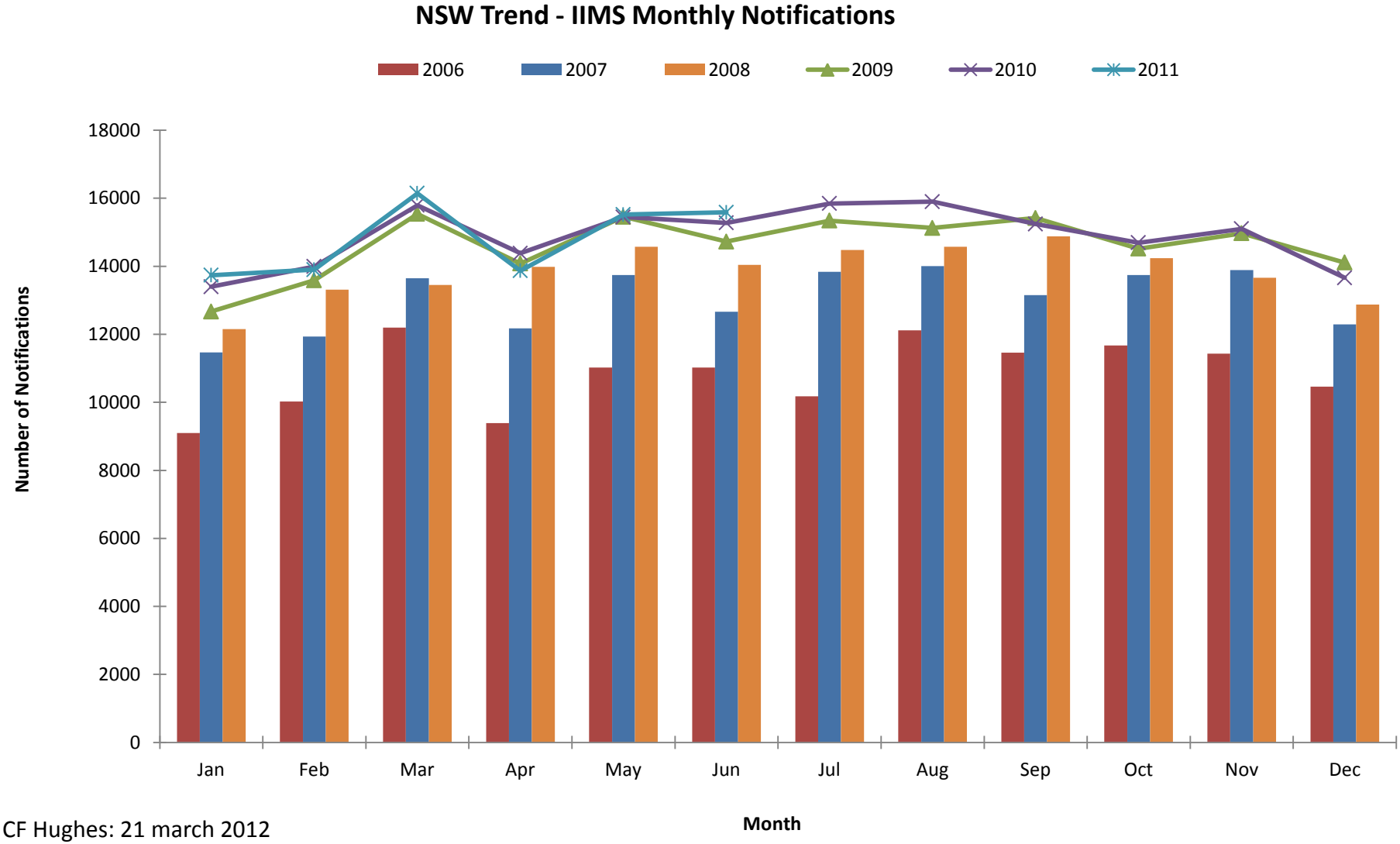
- To ensure that patient safety and quality care are at the heart of what you do
- To lead a quality and safety culture and empower and support clinical teams to deliver care of the highest possible standard

Will you take these challenges?

Can you demonstrate in the next 3 months that you:

- Spend more than 25% of the Board's meeting time on quality
- Make quality the first item on the agenda
- Routinely hear first hand patient stories of care that occurred at the organisation
- Set a broad spectrum of patient safety targets to monitor

IIMS enthusiasm



CF Hughes: 21 march 2012

The CEC

A resource for improvement

From the Beach to the Bed:

Lessons for the recognition and management of the deteriorating patient

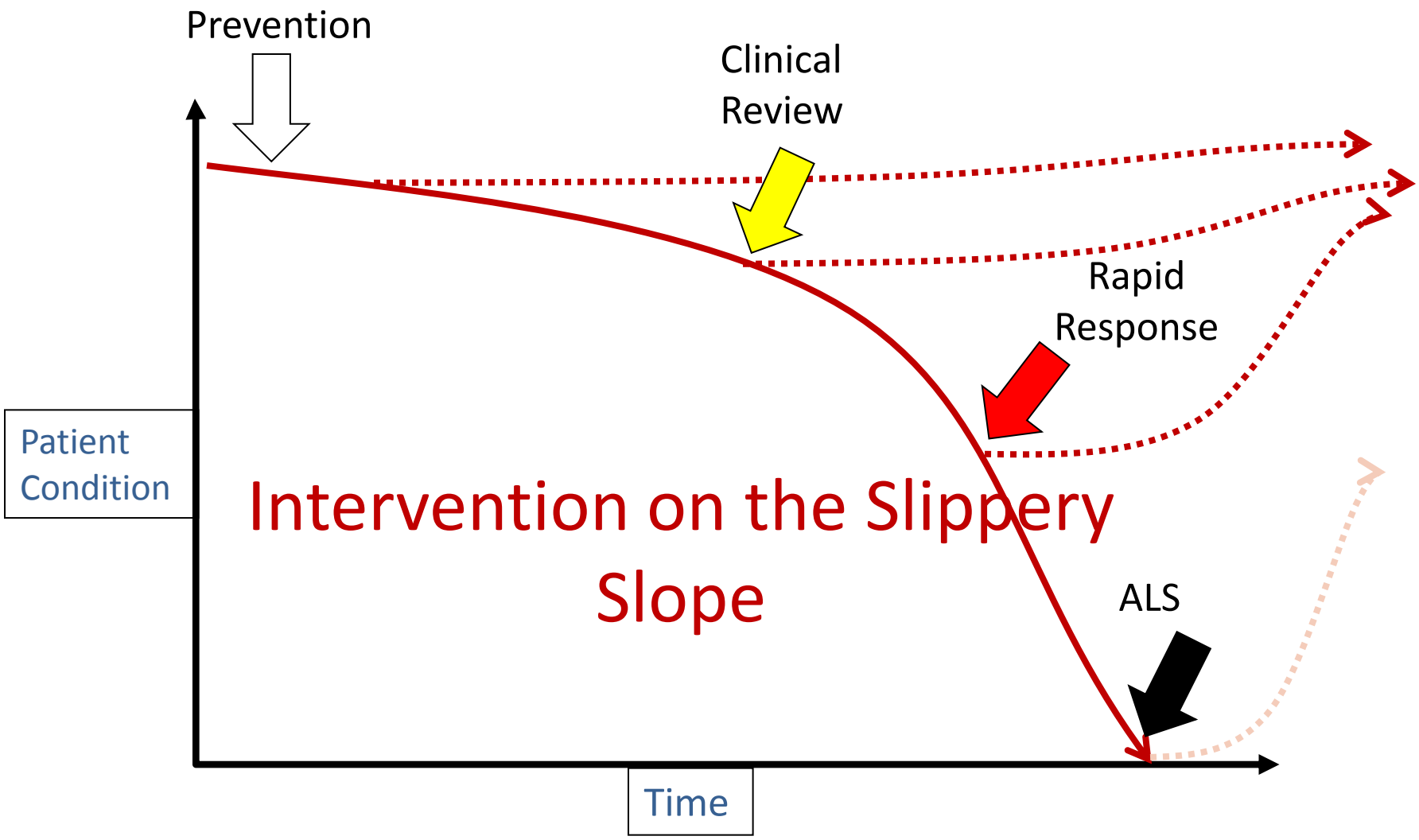
Professor Cliff Hughes AO
Clinical Excellence Commission
21 March 2012

The Problem

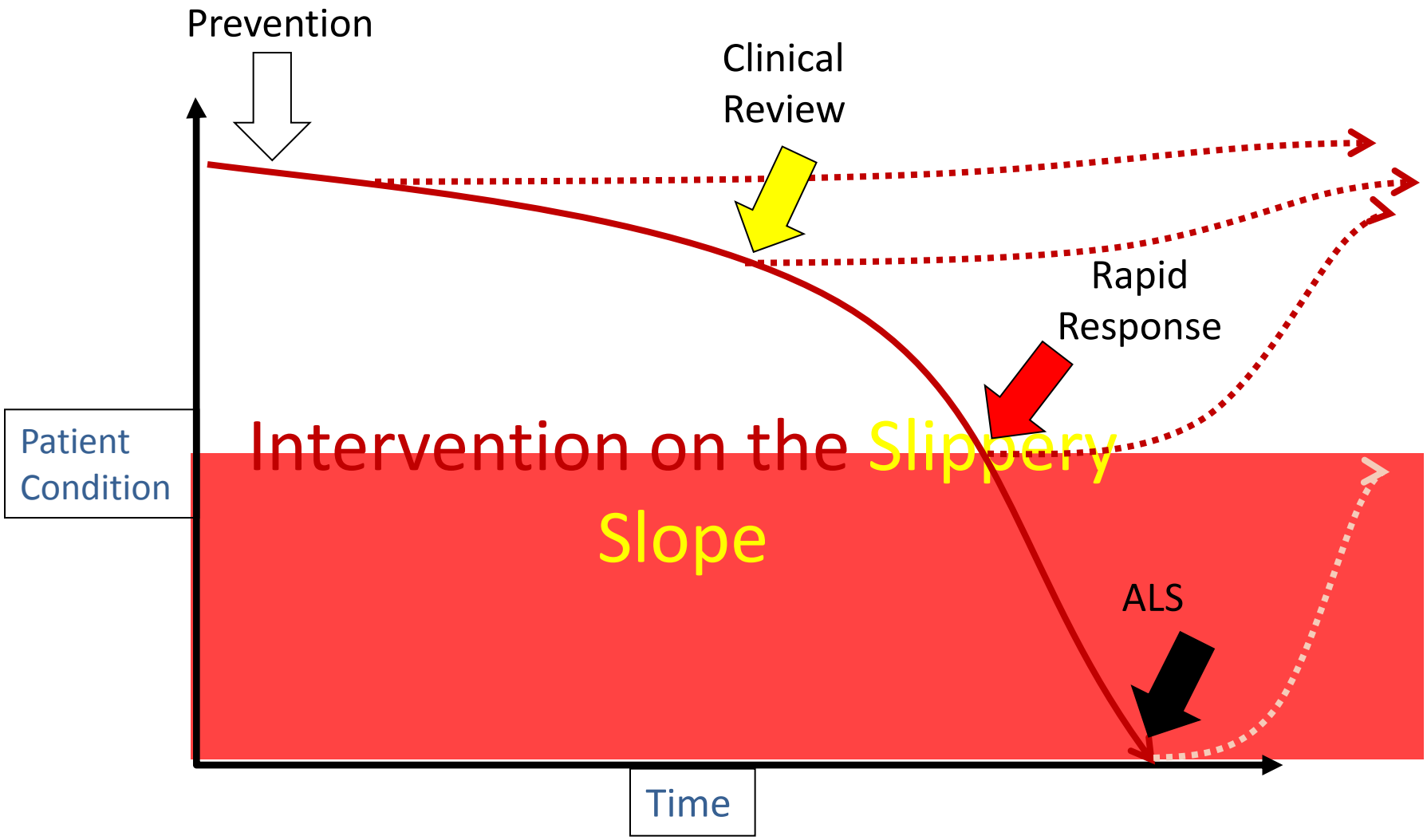
Missed opportunities to:

- prevent
- recognise
- escalate
- respond

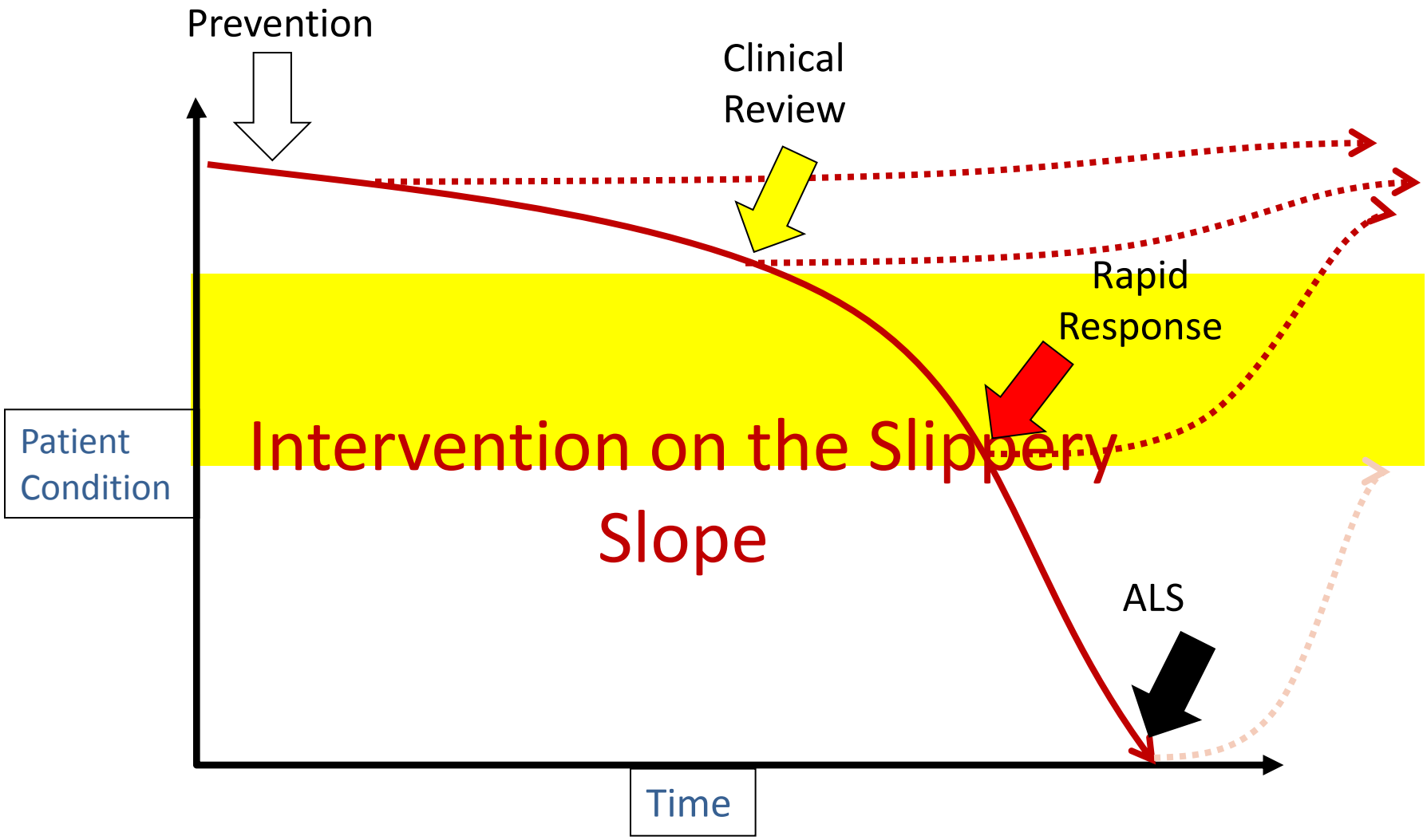
The Solution



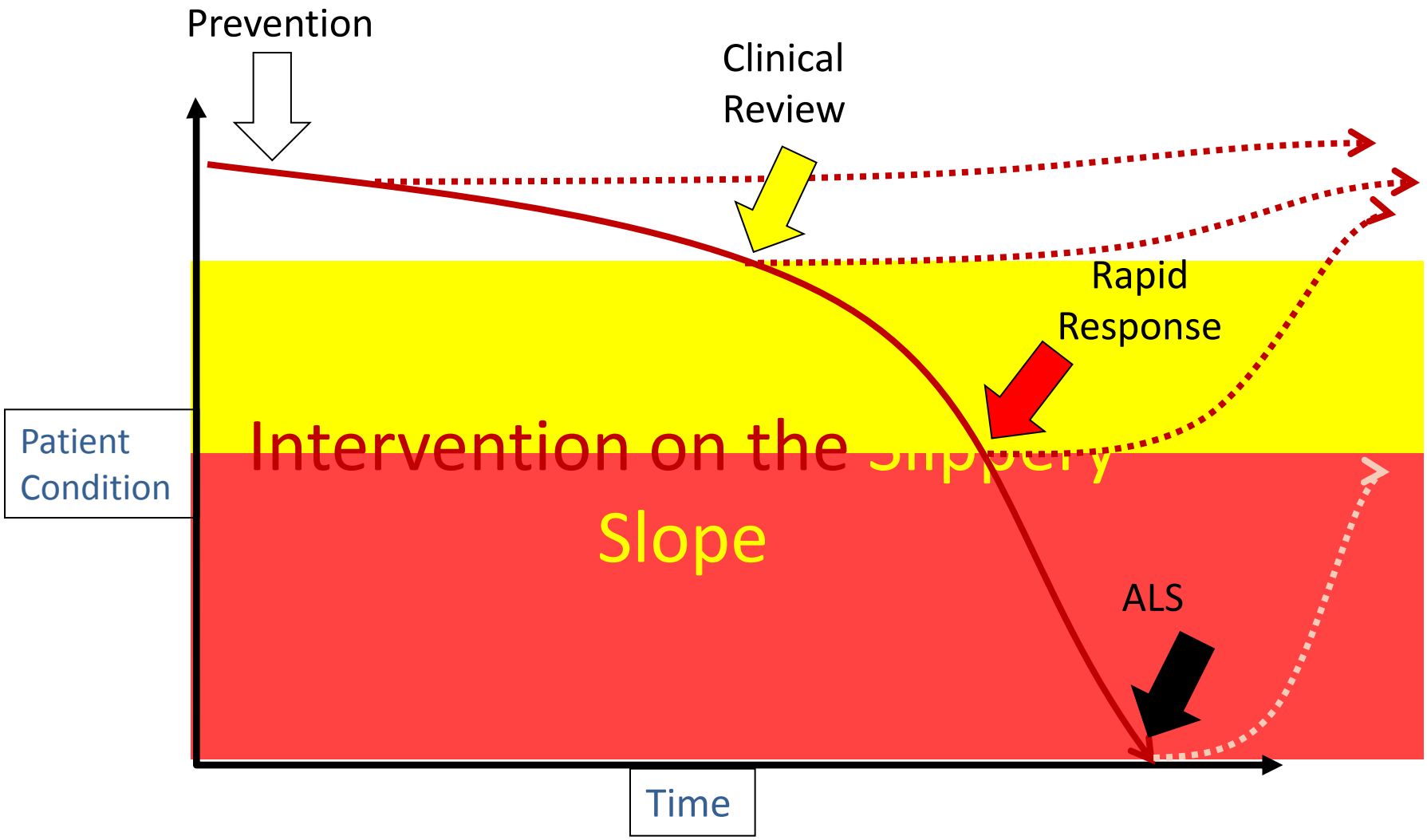
The Solution



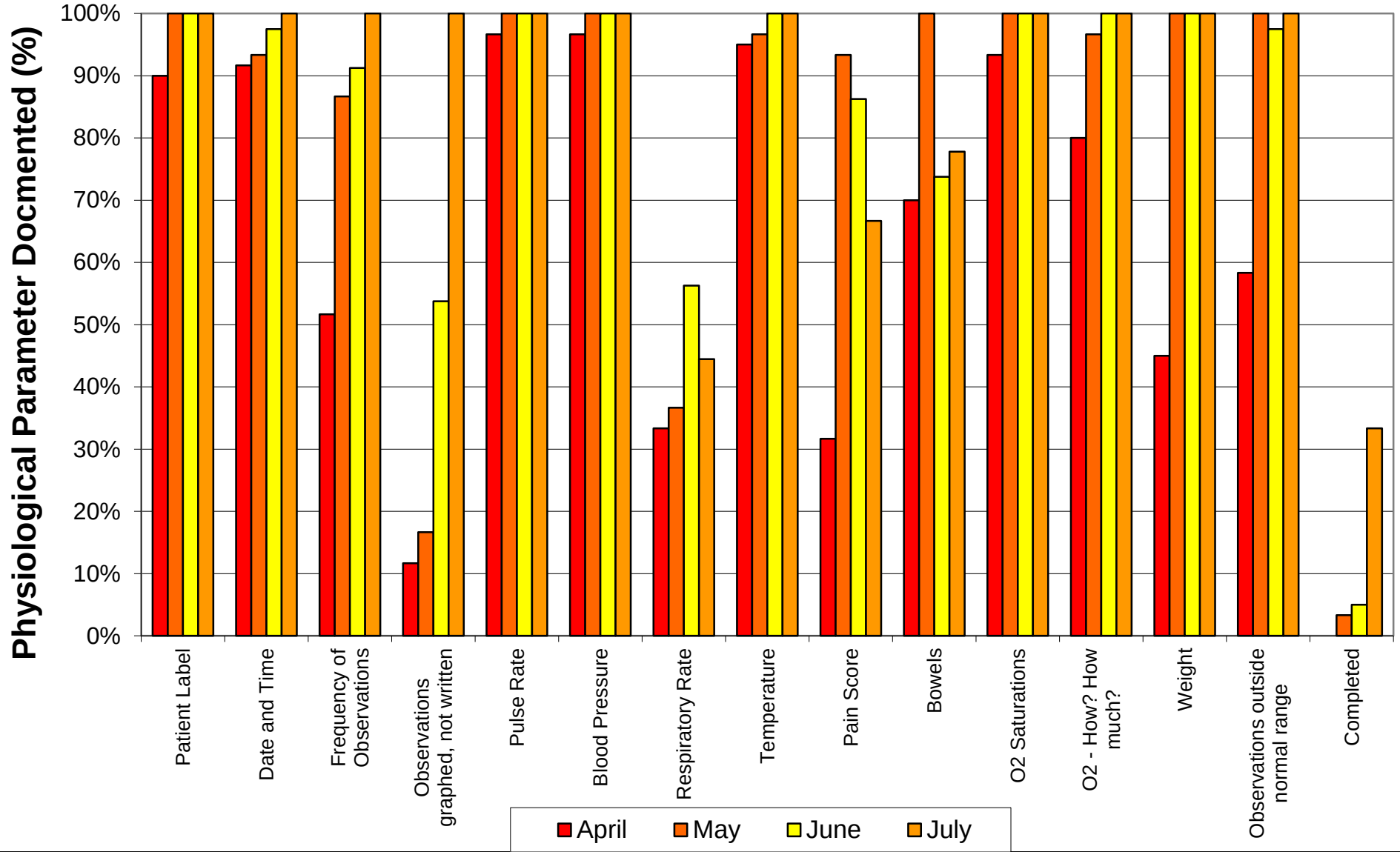
The Solution



The Solution



Reliability of Observation



NSW HEALTH

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

Facility: _____ | D.O.B. ____/____/____ | M.O.

ADDRESS

ADULT GENERAL OBSERVATION CHART

LOCATION

☐ Altered Calling Criteria | COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

SMR110010

Holes punched as per AS2828-1999

BINDING MARGIN - NO WRITING

Date / Time

AIRWAY/BREATHING

Respiratory Rate •: 35 30 25 20 15 10 5

SpO₂% •: 100 95 90 85

O₂ Lpm

CIRCULATION

Blood Pressure (mmHg) SBP is trigger > <: 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40

Heart Rate •: 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40

DISABILITY

Neurological: A V P U

Enter appropriate letter. A= Alert, V= Rousable only by voice (consider GCS). P= Rousable only by central pain (conduct GCS). U=Unresponsive

Rapid Response | Clinical Review

NSW HEALTH

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

Facility: _____ | D.O.B. ____/____/____ | M.O.

ADDRESS

ADULT GENERAL OBSERVATION CHART

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

Date:

Time:

Temperature (°C) • (If >38.5°C Consider Blood Cultures- Check Unit Policy): >40 40 39 38 37 36 35 34 <34

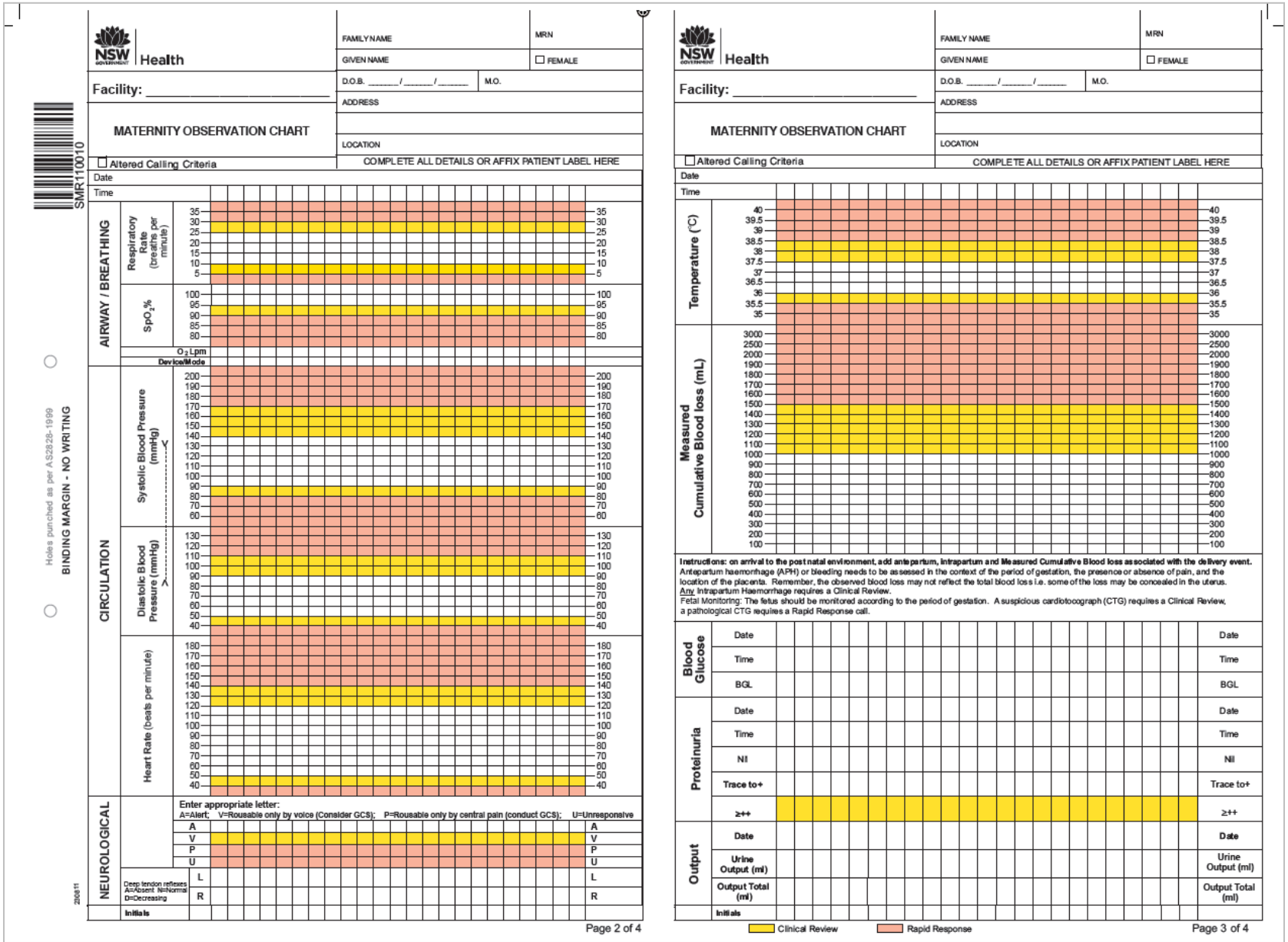
PAIN SCORE

(No pain) 0 — 5 — 10 (Worst)

Pain (0-10)	Date	
	Time	
	Score	
Blood Glucose	Date	
	Time	
	BGL	
Bowels	Date	
Weight	Date	
	☐ Daily	
Fluid Summary	Date	
	Intake: Total	
	Output: Urine	
	Output: Total	
	BALANCE	
Urinalysis	Date	
	Time	
	SG	
	pH	
	Leuk	
	Blood	
	Nitrite	
	Ketones	
	Bilirubin	
	U/Bil	
	Protein	
	Glucose	

NHM0681.2 041209

Maternity



NSW Health

Facility: _____

MATERNITY OBSERVATION CHART

☐ Altered Calling Criteria

FAMILY NAME | MRN

GIVEN NAME | ☐ FEMALE

D.O.B. _____/_____/_____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

SMR110010

Holes punched as per AS2828-1999

BINDING MARGIN - NO WRITING

Date

Time

AIRWAY / BREATHING

Respiratory Rate (breaths per minute)

SpO_2 %

O_2 Lpm

Device/Mode

CIRCULATION

Systolic Blood Pressure (mmHg)

Diastolic Blood Pressure (mmHg)

Heart Rate (beats per minute)

NEUROLOGICAL

Enter appropriate letter:

A=Alert; V=Rousable only by voice (Consider GCS); P=Rousable only by central pain (conduct GCS); U=Unresponsive

A

V

P

U

Deep tendon reflexes A=Absent N=Normal D=Decreasing

L

R

Initials

230811

Page 2 of 4

NSW Health

Facility: _____

MATERNITY OBSERVATION CHART

☐ Altered Calling Criteria

FAMILY NAME | MRN

GIVEN NAME | ☐ FEMALE

D.O.B. _____/_____/_____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

Date

Time

Temperature (°C)

Measured Cumulative Blood loss (mL)

Instructions: on arrival to the post natal environment, add antepartum, intrapartum and Measured Cumulative Blood loss associated with the delivery event.
Antepartum haemorrhage (APH) or bleeding needs to be assessed in the context of the period of gestation, the presence or absence of pain, and the location of the placenta. Remember, the observed blood loss may not reflect the total blood loss i.e. some of the loss may be concealed in the uterus.
Any Intrapartum Haemorrhage requires a Clinical Review.
Fetal Monitoring: The fetus should be monitored according to the period of gestation. A suspicious cardiotocograph (CTG) requires a Clinical Review, a pathological CTG requires a Rapid Response call.

Blood Glucose

Date

Time

BGL

Proteinuria

Date

Time

Nil

Trace to+

≥++

Output

Date

Urine Output (ml)

Output Total (ml)

Initials

Clinical Review

Rapid Response

Page 3 of 4

Maternity- front and back pages

NSW Health

Facility: _____

MATERNITY OBSERVATION CHART

FAMILY NAME | MRN

GIVEN NAME | ☐ FEMALE

D.O.B. ____/____/____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

OTHER CHARTS IN USE

- ☐ Neurological
- ☐ Fluid Balance
- ☐ Anticoagulant
- ☐ Vaginal Loss
- ☐ Pain / Epidural / Patient Controlled Analgesia
- ☐ Patient Held Diabetes Record
- ☐ Clinical Pathway
- ☐ Alcohol Withdrawal
- ☐ Fetal Heart Rate / Cardiographic (CTG)
- ☐ Partogram
- ☐ Other _____
- ☐ Other _____

IF ANY OF THESE RISK FACTORS ARE PRESENT COMMENCE OBSERVATIONS ON THIS OBSERVATION CHART

Identified Clinical Risk Factors

- ☐ Infection or Risk of Infection
- ☐ Bleeding or Risk of Bleeding
- ☐ Hypertension

Other Risk Factors-

1. _____
2. _____
3. _____
4. _____

Note:

- THIS IS NOT A PARTOGRAM
- FOR ANTENATAL PATIENTS - use in conjuction with fetal heart monitoring documentation

VARIATIONS TO FREQUENCY OF OBSERVATIONS

DATE:							
Frequency Required							
Medical or Rapid Response Officer Name							
Signature							

ALTERATIONS TO CLINICAL REVIEW CALLING CRITERIA
(MUST BE REVIEWED WITHIN 36 HOURS OR EARLIER IF CLINICALLY INDICATED)
Any alteration MUST be signed by a Medical Officer and confirmed by the Attending Medical Officer

DATE:							
TIME:							
Next Review - Date and Time:							
SpO_2							
Systolic Blood Pressure							
Diastolic Blood Pressure							
Heart Rate							
Other							
Medical Officer Name							
Medical Officer Signature							
Attending Medical Officer Signature							

INTERVENTIONS/COMMENTS

	DATE	TIME	
1.			
2.			
3.			
4.			
5.			

MATERNITY OBSERVATION CHART

SMR110.010

THESE INSTRUCTIONS EXPLAIN WHEN TO MAKE A CLINICAL REVIEW OR RAPID RESPONSE CALL, YOUR LOCAL ESCALATION PROTOCOL WILL EXPLAIN HOW TO MAKE A CALL

Clinical Review Criteria

- Poor peripheral circulation
- Measured post partum cumulative blood loss 1000 – 1500mL
- Respiratory Rate 5 - 10 or 25 - 30 breaths per minute
- SpO_2 90 - 95% and/or increase in oxygen (O_2) requirement
- Systolic Blood Pressure 80 - 90 or 140 - 170mmHg
- Diastolic Blood Pressure 40-50 or 90 - 110mmHg
- Heart Rate 40 - 50 or 120 - 140 beats per minute
- Decline in Level of Consciousness from alert (A) to rousable only by voice (V) in the AVPU or new onset of confusion
- Decreasing or absent deep tendon reflexes
- Temperature 37.5 - 38.5°C or 35.5 - 36°C
- Anuria or urine output < 80ml total over 4 consecutive hours
- Greater than expected fluid loss
- Blood Glucose Level 2 - 4 mmol/L
- New, increasing or uncontrolled pain (including headache and chest pain)
- Suspicious Cardiotocograph (CTG)
- Concern by any staff or family member

IF A WOMAN HAS ANY ONE (1) OR MORE CLINICAL REVIEW CRITERIA PRESENT, YOU MUST CONSULT PROMPTLY WITH THE NURSE/MIDWIFE IN CHARGE AND ASSESS WHETHER A CLINICAL REVIEW IS NEEDED (REFER TO YOUR LOCAL ESCALATION PROTOCOL) AND

1. You MUST initiate appropriate clinical care
2. Repeat and record observations as indicated by the woman's condition, but at least within 30 minutes
3. If you called for a Clinical Review and it has not been attended within 30 minutes, you **MUST** ACTIVATE YOUR LOCAL RAPID RESPONSE (see below)
4. If the woman's observations enter the RED Zone while you are waiting for a Clinical Review, you **MUST** ACTIVATE YOUR LOCAL RAPID RESPONSE (see below)
5. You may call for a Clinical Review at any time if worried about a woman or are unsure whether to call.

You should consider

1. Whether the abnormal observations reflect deterioration in the woman's condition
2. What is usual for the woman or if there are altered calling criteria (see front of chart)
3. Whether there is an adverse trend in observations

Rapid Response Criteria

- **ALL** respiratory and cardiac arrests
- Airway obstruction or stridor
- Seizures
- Deterioration not reversed within 1 hour of Clinical Review
- Patient deteriorates further, before or during Clinical Review
- Arterial Blood Gas: P_aO_2 < 60, or P_aCO_2 > 60, or pH < 7.2, or BE < -5
- Venous Blood Gas P_vCO_2 > 65 or pH < 7.2
- Respiratory Rate ≤ 5 or ≥ 30 breaths per minute
- SpO_2 ≤ 90% and/or increase in oxygen (O_2) requirement
- Systolic Blood Pressure ≤ 80 or ≥ 170mmHg
- Diastolic Blood Pressure < 40mmHg or ≥ 110mmHg
- Heart Rate ≤ 40 or ≥ 140 beats per minute
- Only responds to central pain (P) or unresponsive (U), or sudden decrease in Level of Consciousness of ≥ 2 points on GCS
- Temperature ≥ 38.5°C or ≤ 35.5°C
- Blood Glucose Level < 2 mmol/L
- Pathological Cardiotocograph (CTG)
- Serious concern by any staff member or family member

IF A WOMAN HAS ANY ONE (1) RAPID RESPONSE CRITERION PRESENT, CALL FOR A RAPID RESPONSE (REFER TO YOUR LOCAL ESCALATION PROTOCOL) AND

1. You **MUST** initiate appropriate clinical care
2. Inform the Nurse/Midwife in Charge
3. Repeat observations as indicated by the woman's condition

CHECK THE CLINICAL RECORD FOR ALTERATIONS TO CALLING CRITERIA WHICH MAY AFFECT WHETHER A CLINICAL REVIEW OR RAPID RESPONSE CALL IS INDICATED

DOCUMENTATION

1. Write interventions on the front of the chart under 'interventions'
2. Write treatment, escalation process, and outcome in the clinical record
3. Write date, signature and designation with each entry

Holes punched as per AS2828-1999

BINDING MARGIN - NO WRITING

Paediatric Charts- front and back pages

NSW HEALTH

Facility: _____

STANDARD PAEDIATRIC OBSERVATION CHART (SPOC)

1-4 Years

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____/____/____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

1-4 Years

OTHER CHARTS IN USE

☐ Fluid Balance ☐ Insulin Infusion ☐ Other _____

☐ Neurological ☐ Pain / Epidural / Patient Control Analgesia ☐ Other _____

☐ Neurovascular ☐ Other _____

VARIATIONS TO FREQUENCY OF OBSERVATIONS

Date							
Time							
Frequency Required							
Medical or Rapid Response Officer Name							
Signature							

ALTERATIONS TO CALLING CRITERIA
(MUST BE REVIEWED WITHIN 48 HOURS OR EARLIER IF CLINICALLY INDICATED)
Any alteration MUST be signed by a Medical Officer and confirmed by the Attending Medical Officer

Date							
Time							
Next review - date & time							
Respiratory Rate							
SpO_2							
Heart Rate							
Other							
Medical Officer name							
Medical Officer signature							
Attending Medical Officer signature							

INTERVENTIONS/COMMENTS

	DATE	TIME	
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

STANDARD PAEDIATRIC OBSERVATION CHART 1-4 YEARS SMR110.017

Page 1 of 4

UNAUTHORISED PROOF

THESE INSTRUCTIONS EXPLAIN WHEN TO MAKE A CLINICAL REVIEW OR RAPID RESPONSE CALL, YOUR LOCAL ESCALATION PROTOCOL WILL EXPLAIN HOW TO MAKE A CALL

Blue Zone Actions

IF A CHILD HAS ANY ONE (1) BLUE ZONE CRITERION PRESENT YOU MUST INCREASE THE FREQUENCY OF OBSERVATIONS AS CLINICALLY APPROPRIATE, AND

1. You **MUST** initiate appropriate clinical care
2. Manage anxiety, pain and review oxygenation in consultation with the nurse in charge
3. You may call for a Clinical Review or Rapid Response at any time if worried about a patient or are unsure whether to call

You should also consider

1. Whether abnormal observations reflect deterioration in your patient
2. What is usual for your patient or if there are altered calling criteria (see front of chart)
3. Whether there is an adverse trend in observations

Additional Yellow Zone Criteria

- Increasing oxygen requirement
- Poor peripheral circulation
- Greater than expected fluid loss
- Reduced urine output or anuria (<1 ml/kg/hr)
- BGL 2-3mmol/L
- Altered mental state: Agitation, Combative or Inconsolable
- New onset of fever > 38.5ºC
- New, increasing or uncontrolled pain
- Concern by any staff or family member

IF A CHILD HAS ANY ONE (1) OR MORE CLINICAL REVIEW CRITERIA PRESENT, YOU MUST CONSULT PROMPTLY WITH THE NURSE IN CHARGE AND ASSESS WHETHER A CLINICAL REVIEW IS NEEDED (REFER TO YOUR LOCAL PROTOCOL) AND

1. You **MUST** Initiate appropriate clinical care
2. Repeat and record observations as indicated by the patient's condition, but at least within 30 minutes
3. If you called for a Clinical Review and it has not been attended within 30 minutes, you **MUST** ACTIVATE YOUR LOCAL RAPID RESPONSE
4. If the patient's observations enter the RED Zone while you are waiting for a Clinical Review, you **MUST** ACTIVATE YOUR LOCAL RAPID RESPONSE (See below)
5. You may call for a Clinical Review or Rapid Response at any time if you are worried about a patient or are unsure whether to call.

You should also consider

1. Whether abnormal observations reflect deterioration in your patient
2. What is usual for your patient or if there are altered calling criteria (see front of chart)
3. Whether there is an adverse trend in observations

Additional Red Zone Criteria

- New onset of stridor
- Respiratory arrest
- Cardiac arrest or circulatory collapse
- Significant bleeding
- Sudden decrease in level of consciousness of ≥2 points on GCS
- BGL < 2mmol/L or symptomatic
- New or prolonged seizure activity
- 3 or more simultaneous 'Yellow Zone' observations
- Deterioration not reversed within 1 hour of Clinical Review
- Patient deteriorates further before, during or after Clinical Review
- Serious concern by any staff or family member

IF A CHILD HAS ANY ONE (1) RED ZONE CRITERION PRESENT, CALL FOR A RAPID RESPONSE (REFER TO YOUR LOCAL ESCALATION PROTOCOL) AND

1. You **MUST** initiate appropriate clinical care
2. Inform the Nurse in Charge
3. Repeat observations as indicated by patient's condition

CHECK THE CLINICAL RECORD FOR ADVANCE CARE DIRECTIVES OR ALTERATIONS TO CALLING CRITERIA WHICH MAY AFFECT WHETHER A CLINICAL REVIEW OR RAPID RESPONSE CALL IS INDICATED

DOCUMENTATION

1. Write interventions on the front of the chart under 'interventions'
2. Write treatment, escalation process, and outcome in the clinical record
3. Write date, signature and designation with each entry

Page 4 of 4

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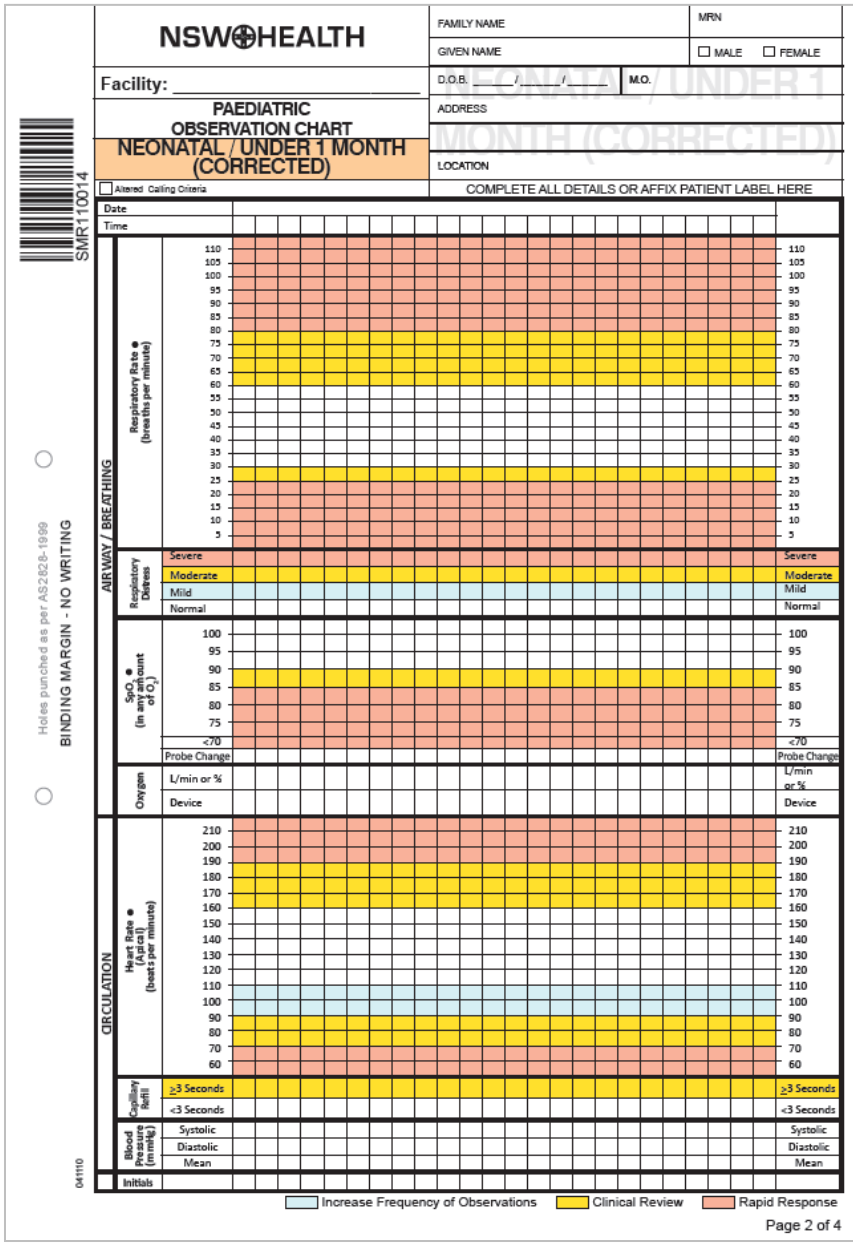
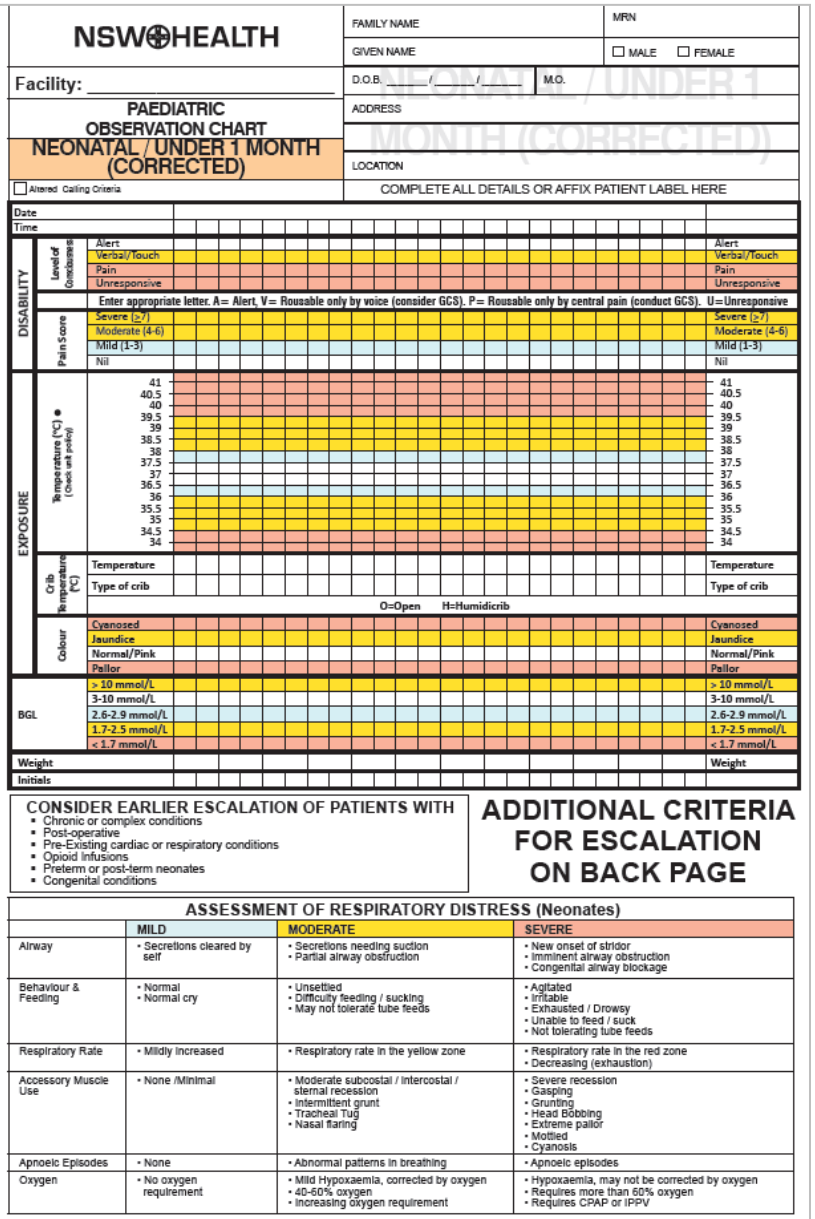
SMR110017

Paediatrics- Neonatal /Under 30 days





CONSIDER EARLIER ESCALATION OF PATIENTS WITH

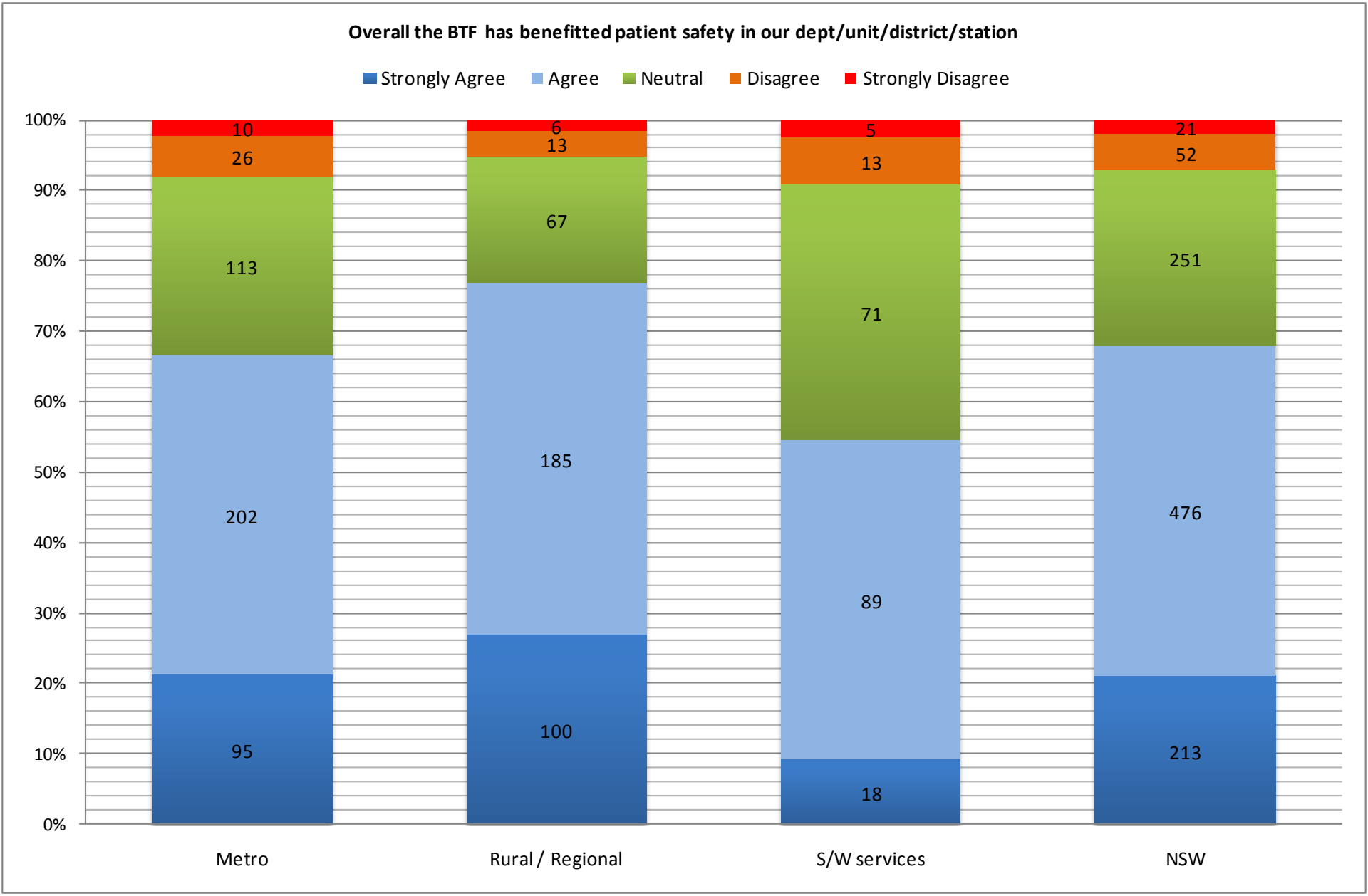
- Chronic or complex conditions
- Post-operative
- Pre-Existing cardiac or respiratory conditions
- Opioid infusions
- Preterm or post-term neonates
- Congenital conditions

ADDITIONAL CRITERIA FOR ESCALATION ON BACK PAGE

ASSESSMENT OF RESPIRATORY DISTRESS (Neonates)

	MILD	MODERATE	SEVERE
Airway	• Secretions cleared by self	• Secretions needing suction • Partial airway obstruction	• New onset of stridor • Imminent airway obstruction • Congenital airway blockage
Behaviour & Feeding	• Normal • Normal cry	• Unsettled • Difficulty feeding / sucking • May not tolerate tube feeds	• Agitated • Irritable • Exhausted / Drowsy • Unable to feed / suck • Not tolerating tube feeds
Respiratory Rate	• Mildly increased	• Respiratory rate in the yellow zone	• Respiratory rate in the red zone • Decreasing (exhaustion)
Accessory Muscle Use	• None /Minimal	• Moderate subcostal / intercostal / sternal recession • Intermittent grunt • Tracheal Tug • Nasal flaring	• Severe recession • Gasping • Grunting • Head Bobbing • Extreme pallor • Mottled • Cyanosis
Apnoeic Episodes	• None	• Abnormal patterns in breathing	• Apnoeic episodes
Oxygen	• No oxygen requirement	• Mild Hypoxaemia, corrected by oxygen • 40-60% oxygen • Increasing oxygen requirement	• Hypoxaemia, may not be corrected by oxygen • Requires more than 60% oxygen • Requires CPAP or IPPV

Page 3 of 4



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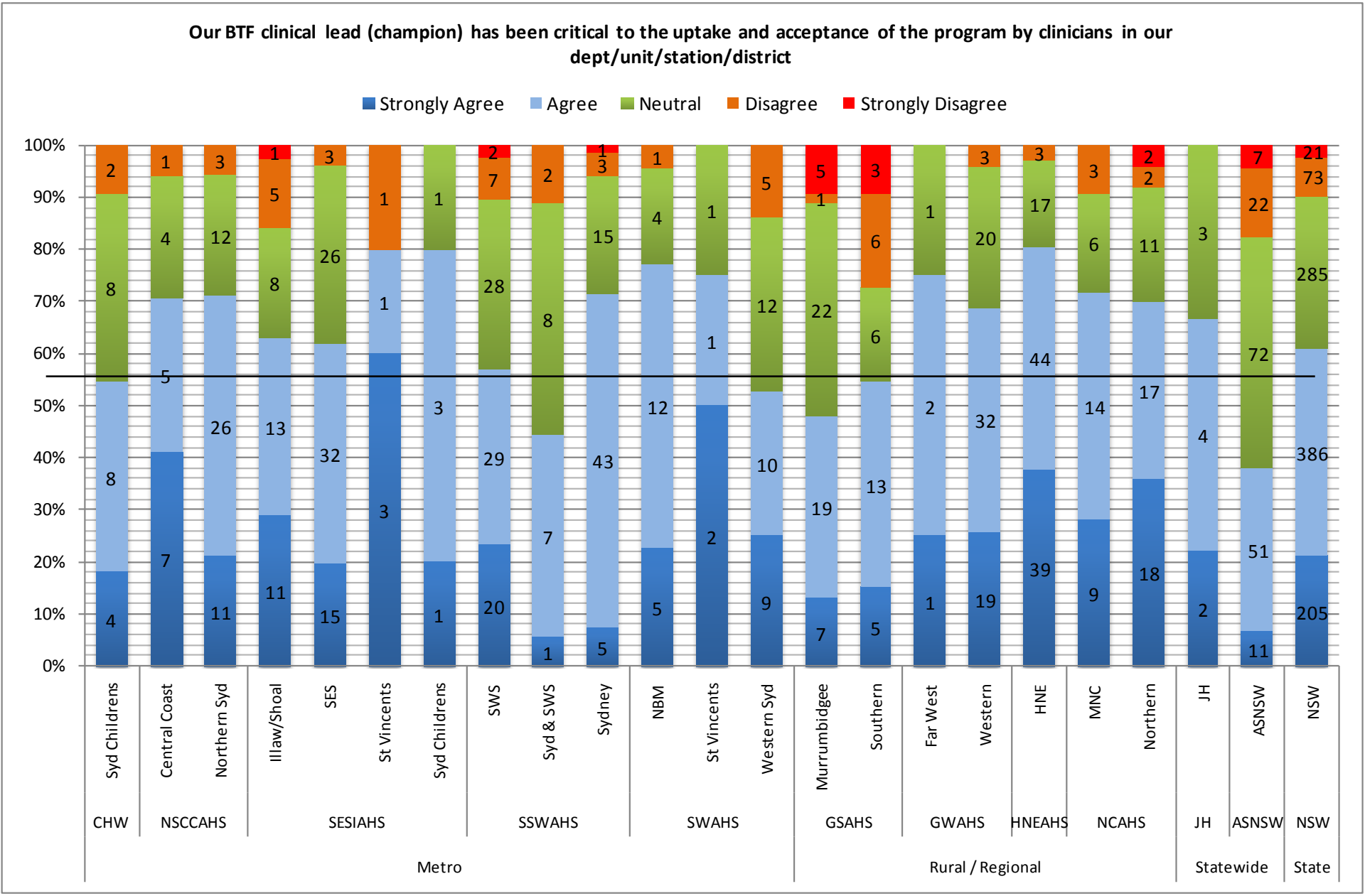


CF Hughes 21 March 2012

clabicu PROJECT

PREVENTING CENTRAL LINE INFECTIONS

NSW Central Line Associated Bacteraemia – ICU Project

AR Burrell, M-L McLaws, A Pantle, M Murgo, E Calabria

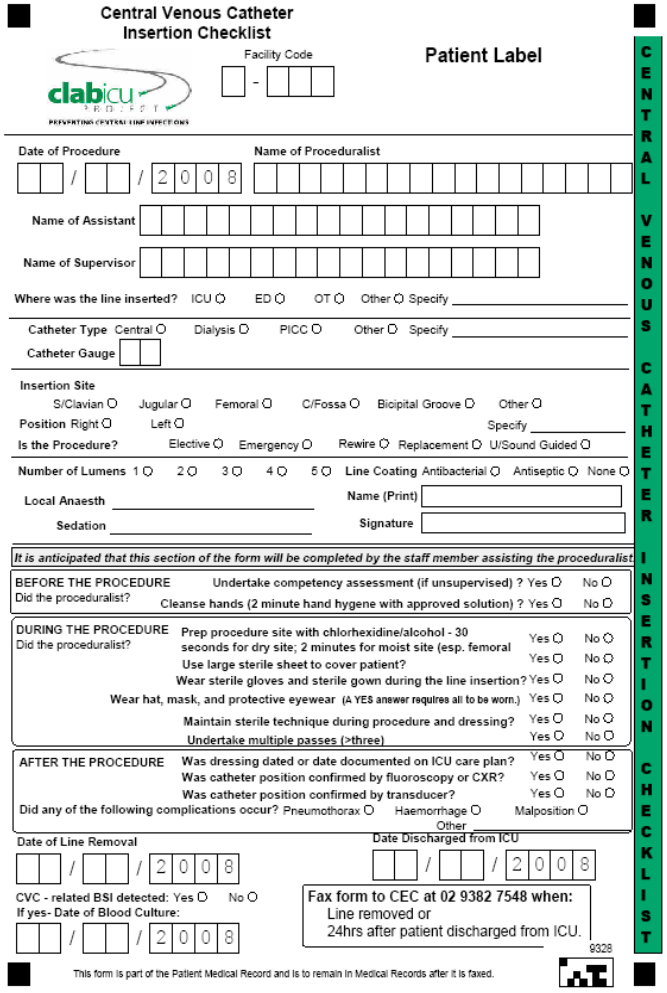
ICCMU Intensive Care Coordination & Monitoring Unit

NSW HEALTH

UNSW THE UNIVERSITY OF NEW SOUTH WALES
SCHOOL OF PUBLIC HEALTH AND COMMUNITY MEDICINE

CLINICAL EXCELLENCE COMMISSION

Guideline and checklist



Central Venous Catheter Insertion Checklist

clabicu PROJECT — PREVENTING CENTRAL LINE INFECTIONS

Facility Code

Patient Label

CENTRAL VENOUS CATHETER INSERTION CHECKLIST

Date of Procedure / / 2008

Name of Proceduralist

Name of Assistant

Name of Supervisor

Where was the line inserted? ICU ○ ED ○ OT ○ Other ○ Specify

Catheter Type Central ○ Dialysis ○ PICC ○ Other ○ Specify

Catheter Gauge

Insertion Site

S/Clavian ○ Jugular ○ Femoral ○ C/Fossa ○ Bicipital Groove ○ Other ○

Position Right ○ Left ○ Specify

Is the Procedure? Elective ○ Emergency ○ Rewire ○ Replacement ○ U/Sound Guided ○

Number of Lumens 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ Line Coating Antibacterial ○ Antiseptic ○ None ○

Local Anaesth Name (Print)

Sedation Signature

It is anticipated that this section of the form will be completed by the staff member assisting the proceduralist

BEFORE THE PROCEDURE Did the proceduralist?	Undertake competency assessment (if unsupervised) ?	Yes ○	No ○
	Cleanse hands (2 minute hand hygene with approved solution) ?	Yes ○	No ○
DURING THE PROCEDURE Did the proceduralist?	Prep procedure site with chlorhexidine/alcohol - 30 seconds for dry site; 2 minutes for moist site (esp. femoral	Yes ○	No ○
	Use large sterile sheet to cover patient?	Yes ○	No ○
	Wear sterile gloves and sterile gown during the line insertion?	Yes ○	No ○
	Wear hat, mask, and protective eyewear (A YES answer requires all to be worn.)	Yes ○	No ○
	Maintain sterile technique during procedure and dressing?	Yes ○	No ○
	Undertake multiple passes (>three)	Yes ○	No ○
AFTER THE PROCEDURE	Was dressing dated or date documented on ICU care plan?	Yes ○	No ○
	Was catheter position confirmed by fluoroscopy or CXR?	Yes ○	No ○
	Was catheter position confirmed by transducer?	Yes ○	No ○
Did any of the following complications occur?	Pneumothorax ○ Haemorrhage ○ Malposition ○ Other		

Date of Line Removal / / 2008

Date Discharged from ICU / / 2008

CVC - related BSI detected: Yes ○ No ○

If yes- Date of Blood Culture: / / 2008

Fax form to CEC at 02 9382 7548 when:
Line removed or
24hrs after patient discharged from ICU.

9328

This form is part of the Patient Medical Record and is to remain in Medical Records after it is faxed.

HEALTHCARE ASSOCIATED INFECTIONS

CENTRAL VENOUS CATHETER INSERTION — STANDARD

CareSafe NSW HEALTH *putting the patient first*

Related policy

Central venous catheter defined

Central venous catheter (CVC):

- refers to an intravenous device with a tip ending in a major vein
- may have a skin entry point in the trunk, 'centrally inserted', or skin entry point through a limb, 'peripherally inserted'.

Mandatory central venous catheter insertion principles

- CVC insertion is a complex procedure requiring maintenance of a sterile field to reduce the risk of local or systemic infection.
- Only trained or experienced clinicians must insert a CVC. All clinicians new to the insertion of a CVC must complete a training program.
- Multiple attempts at CVC insertion increases the risk of mechanical and infective complications. An escalation procedure to minimise this risk should be followed.
- Careful ongoing maintenance of a CVC is essential. Refer to guidelines for post insertion care (insert hyperlink to guidelines).

Safe insertion - summary

A proceduralist must comply with the following when inserting a CVC:

- Consider use of the subclavian insertion site.
- Seek procedural support from an assistant or supervisor.
- Perform hand hygiene.
- Put on full sterile personal protective equipment.
- Prepare insertion site using an approved solution.
- Use sterile sheet/s to drape the entire patient.
- Maintain sterile technique throughout the procedure.
- Secure and dress the CVC with a sterile transparent semi-permeable self adhesive dressing.
- Check CVC position using a transducer.
- Confirm the CVC position before use by fluoroscopy or x-ray.

The clinical team responsible for the patient must.....

- Review the CVC daily.
- Remove the CVC as soon as practical.

Escalation procedure

Multiple passes as an insertion site may increase the risk of complications. Therefore it is recommended that:

- Passes by a junior clinician should be limited to two at the same site after which no further attempts at cannulation should be made and a change of proceduralist should occur.
- Number of passes by a senior clinician should be governed by clinical judgement. Where multiple insertion failure has occurred, the senior clinician should consider using an alternate proceduralist, radiological or ultrasound guidance.

Pass
Skin puncture with the intention of cannulating a central vein.

Multiple pass
More than one cannulation pass at the same insertion site.

Insertion failure
Unsuccessful cannulation after a multiple pass or arterial puncture.

Assistance and supervision

Only trained or experienced clinicians should insert a CVC. All clinicians new to inserting central lines in NSW must complete a training program that has both knowledge and practical components.

The minimum training requirements for CVC insertion are outlined in the CVC Training and Education Framework (insert hyperlink). Supervision requirements are also specified.

Results

- Data on 10,890 line insertions
- Concurrent incident review:
  - Retained/lost guidewires
  - Arterial puncture
  - Multiple passes
  - Inadequately secured lines
  - Inadequate position check prior to use
  - Lack of access to ultrasound equipment
  - Policy breaches
- Training & supervision common themes
- Safety Alert for guidewires issued
- Training framework developed

Checklist Compliance:

Competency assessed	48.3% (22.9% no, 28.8% missing)
Hat, mask, eyewear	79.9%
Hands washed 2 mins	91.6%
Sterile gown/gloves	95.9%
Alcoholic chlorhexidine prep allowed to dry	95.8%
Entire patient draped	93.4%
Sterile technique maintained	95.6%
No multiple passes	80.9%
Confirm position radiologically	74.3%
Other method to confirm placement	43.6% (44.7% no, 11.7% missing)

Impact of compliance

- Non compliance with the ‘clinician bundle’:
  - relative risk of CLAB was RR 1.62 (95% CI 1.1-2.4, p=0.0178)
  - For central lines RR 1.99 (95% CI 1.2-3.2 , p=0.0037)
  - For PICC RR 5.08 (95% CI 1.03-25 , p=0.059)
  - Dialysis catheters – no difference
- If compliant with both ‘clinician bundle’ and ‘patient bundle’ then
  - risk of CLAB was RR 0.6 (95%CI 0.4-0.9, p=0.0103)

BLOOD WATCH
every drop counts

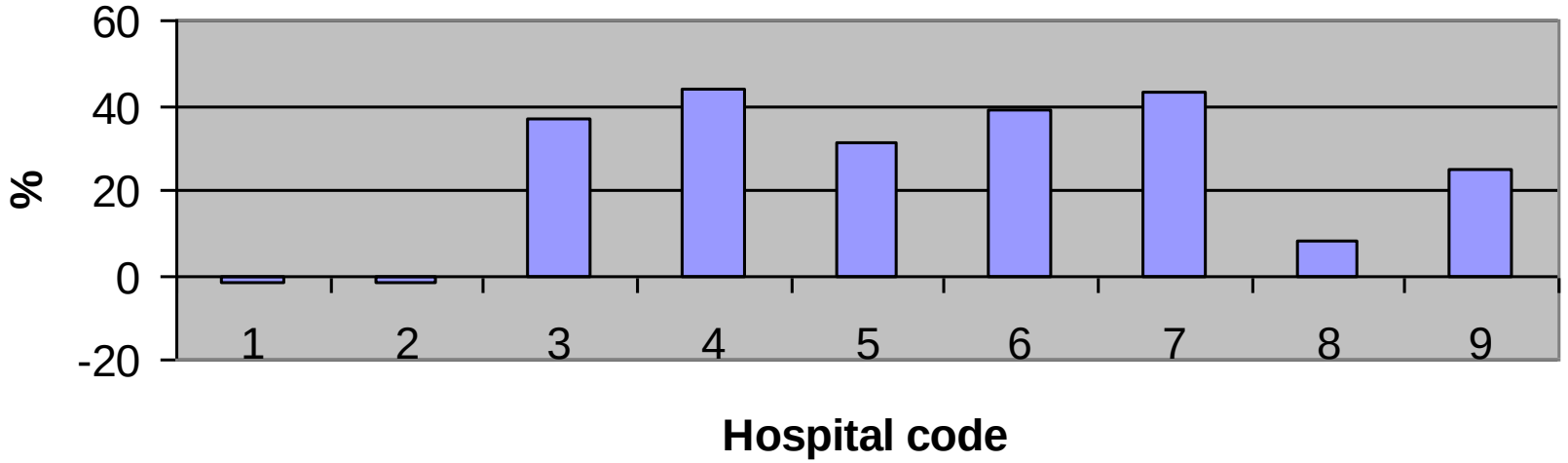
NSW Blood Budget 2008-2009

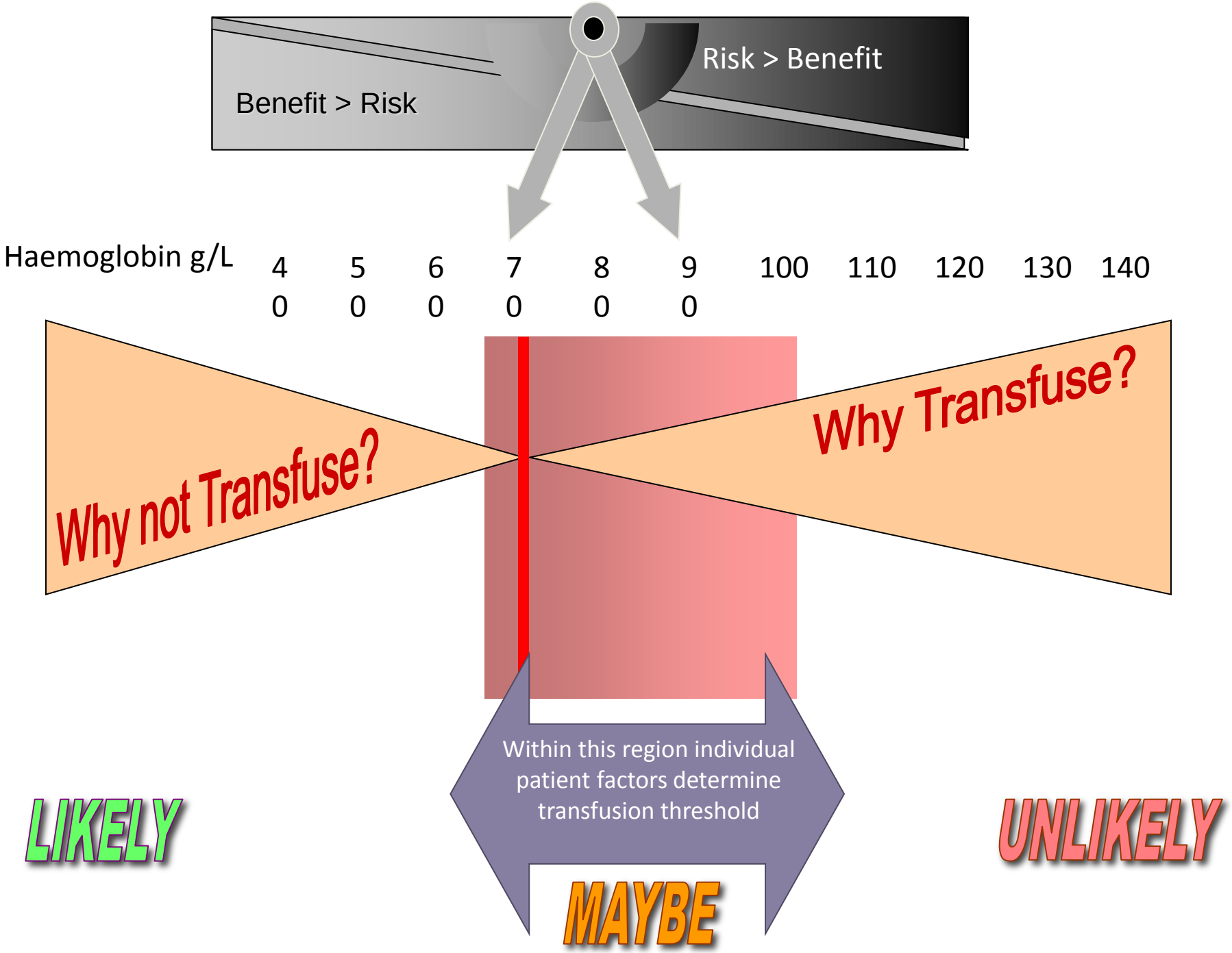
- NSW's total projected Blood Budget for the year 08-09 was **$257,519,200**
  - made up as follows:
  - State contribution (37%) $95,282,113
  - Commonwealth contribution (63%) $162,237,087

Relative Use Database
Metropolitan Hospitals

Proportion of red cell transfusions ocurring in metropolitan teaching hospitals which are either above or below the state average (2005-2006)

(calculated as casemix adjusted relative use index: source data CEC red cell data linkage project NSW)




Benefit > Risk
Risk > Benefit
Haemoglobin g/L
40
50
60
70
80
90
100
110
120
130
140
Why not Transfuse?
Why Transfuse?
Within this region individual patient factors determine transfusion threshold
LIKELY
MAYBE
UNLIKELY

Red Cell Audit Results 2007

- 12.7% anaemic & had surgery with Hb's under 105g/L
- 4% received transfusion with Hb's over 100g/L
- 95% had post-op transfusion with Hb's over 70g/L
- Standard dose 2 units

Blood Myths & the Evidence

Overall % of Reduction in Red Cell usage in NSW Teaching Hospitals for in Patients 2007-2008

2006-2007 performance	Teaching Hospital	% improvement by hospital to previous year*
Highest Relative use	A	-19%
	B	-24%
Intermediate	C	-5%
	D	2%
	E	2%
Lowest	F	-14%
	G	-8%

*Overall hospital activity increased during 2007 -2008

- overall 10% reduction in-patient red cell usage between 2005-2007.
- This figure is an underestimate due to only hospital overnight admissions being included,
- 9168 units were saved.
- Equates to a direct product cost of approximately $2,383,855 savings across the State (based on AUD$260 per unit). This figure is inclusive of Commonwealth Government's 63% contribution to the States blood budget.

theTransfusionquestion

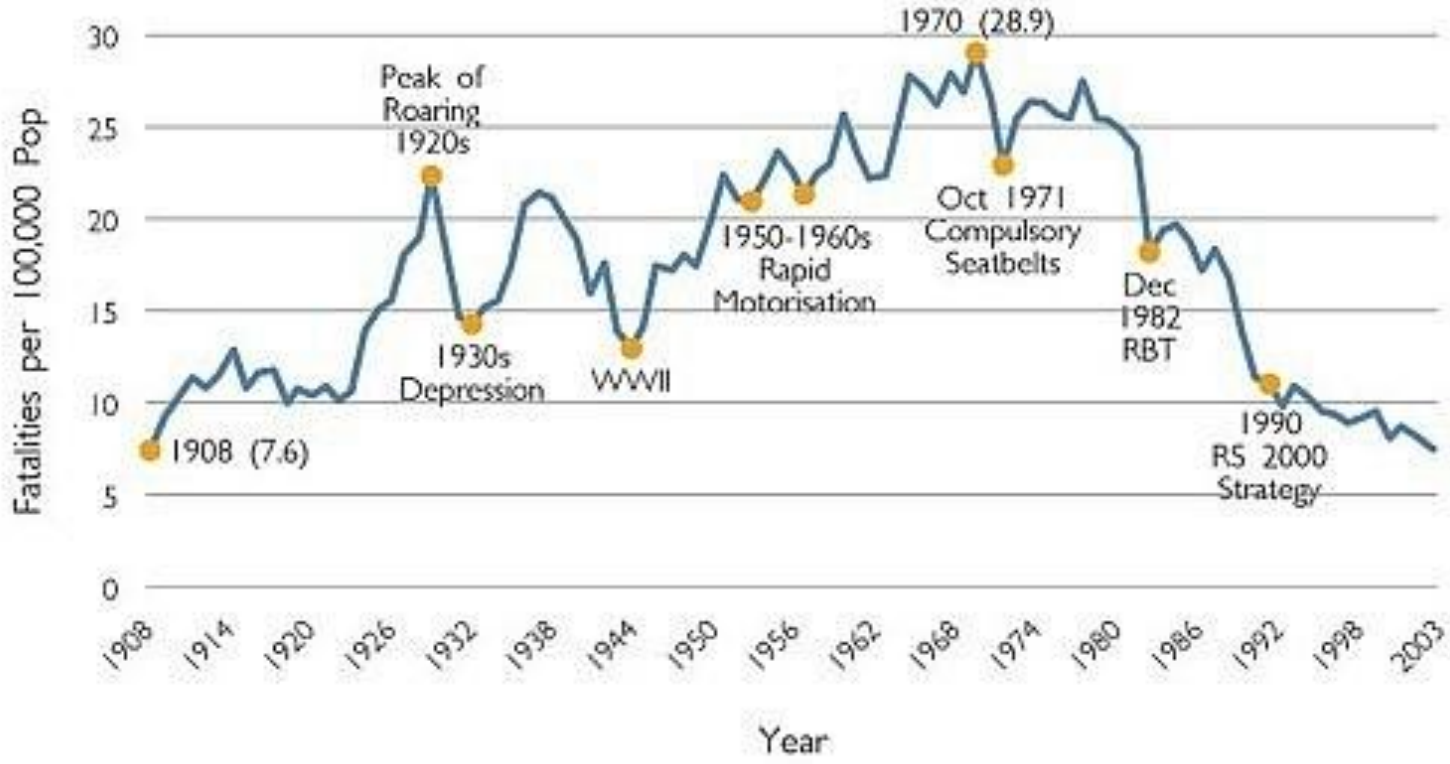
the debate starts soon

www.thetransfusionquestion.com.au

Speeding


CLIP
EVERY
TRIP
NSW
GOVERNMENT
Transport

NSW Statistics



Broken Windows!

1. The Bronx
   10 minutes
   24 hours
2. Palo Alto
   1 week
3. Add a sledge hammer!
   Minutes
   a few hours!

*Zimbardo cited in Wilson JQ Kelling GL

Fig. 1.

K. Keizer et al., Science 322, 1681 -1685 (2008)

Fig. 2.

K. Keizer et al., Science 322, 1681 -1685 (2008)

Published by AAAS

The CEC Quality results

BLOOD WATCH
every drop counts

10% reduction in inappropriate use of blood products

$2.3 million saving in direct product cost

clabicu PROJECT
PREVENTING CENTRAL LINE INFECTIONS

60% reduction in central line associated bacteraemias in ICU

5 to 8 lives saved

$2.4 million saving of additional costs associated with the infection

Clinical Leadership Program

Over 150 clinical improvement projects were undertaken by the 2009 cohort


ISQua
Knowledge
Learn. Connect. Grow.

Leadership setting the tone

- **“You must be the change you wish to see in the world”**
  - Mahatma Ghandi