Where are we?
What do we do?

- Emergency department
- Radiography/Ultrasounds
- DMO
- General medicine
- Elective and emergency surgery
- Obstetrics
- Medical advice and visits to communities
- Medical retrievals
- Medical evacuation
Solutions in the remote communities
Challenges of Remote

- Access
- Distances
- Modes of transport
- Time to retrieval
- Time for evacuation
- Medical/nursing workforce
- Skill mix
How far are we away from help?

- 15 hrs by road to Katherine then 3 hrs to Darwin
- 4-6 hrs aero medical flight to Darwin
- 1:15min Commercial flights to Darwin
Who are our customers?

• Inpatients – 85% indigenous
• Obstetrics – 60% indigenous, 40% non-indigenous
• East Arnhem pop: 15,000
• NT pop: 250,000
• Estimated disease burden – 1,000,000
Well being

- Physical, mental and social well being
- Indigenous population
  - Cultural
  - Spiritual
  - “country”
Patient journey

- Timely
- In or as close to their land as possible
- short journey
- minimise time away from “Country”
Typical patient journey in the East Arnhem

- Gove – Booroloolooa – Gove
- Gove – Darwin
- Darwin – Katherine
- Katherine – Booroloolooa
How do we travel?

- Road 4WD
- Road ambulance
- Air ambulance
- “Careflight” jet
Cost of travel

- AMS flight: $10,000.00
- Charter flights: $1,000
- Commercial airlines: $990
- No road transport available
How long does it take to be rescued?

- Retrieval: 2-6 hours
- Charter specialist RDH: 4-6 hrs
- Medical evacuation: 4-12 hrs
- Outlying community by road ambulance: 4 hrs
Why is rapid response in remote regions important?

• TIME
• reduce time to review and definitive treatment
• correct the course of patient deterioration
• rescue from further harm or death
• Timely decision for transfer
How do we prevent further deterioration?

- Initial management by DMO
- Escalation
- Implementing rapid response
- Medical retrieval
- Stabilisation
- Timely medical evacuation
How can we improve clinical outcomes?

- Prevent patient deterioration
- Early detection of patient deterioration
- MEWS –NT
- Network escalation policy
- Training
  - Observation
  - Assessment
  - Communication
Timely medical management

• Continue to monitor
• Clear escalation protocol
• Transfer early
KEY PROBLEMS:

Compliance

Failure to recognise

Failure of timely review

Lack of structure

Systems assessment

Escalation protocol

Failure to initiate appropriate treatment
REACT

- Recognize the deteriorating patient through
- Early warning system
- Assessment
- Competencies
- Training
REACT 'NT

• Definition:
• “respond to stimulus”
• “undergo change or show behaviour due to some influence”
What did we do to improve this?

Tool
Escalation protocol
Observations – Interpretation
Physical assessment
Communication
Transfers
KEY CHANGES IMPLEMENTED

Structured education sessions

Exec & Medical Officers

Physical assessment

Feedback

Enthusiasm, confidence & interest
“How do we now rescue patients”

- Early detection of deterioration
- Skilled assessment
- Initiate review nursing/medical
- Instigate appropriate medical treatment
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OUTCOMES SO FAR

MEWS OBS CHART AUDIT REPORT

- SBP documented
- RR documented
- Correct MEWS scored
- Highest MEWS recorded
- Freq obs per policy

- July - pre implementation
- August - after 1 week
- August
- September
Where to from here?

Electronic monitoring system
Educating the wider community
Paediatric tool
Obstetric tool
Territory wide application
Maintain skill mix
Nhulunbuy