Nasjonal Konferanse
Akutt- og MottaksMedisin

24. - 25. april 2023

Emergency Medicine Down Under

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Emergency Medicine Down Under

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Fellow Australiasian College for Emergency Medicine

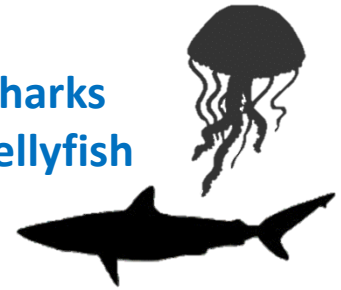
Box Jellyfish (cardiotoxic)
Stonefish

Saltwater crocodiles
Sea snakes (neuro/myotoxic)

Population: 25.69 million
Melbourne- 5 mil
Sydney- 5.3 mil
Darwin- 150,000

Darwin

Taipan
(neuro/myotoxic, coagulopathy)



Sharks
Jellyfish

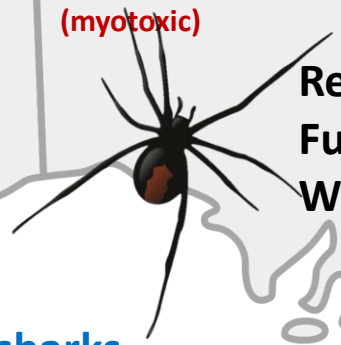
Death Adder
(neurotoxic)
Brown snake
(coagulopathy)
Black Snake
(myotoxic)

Scorpions

Tiger snake
(coagulopathy, neuro/myotoxic)

Brisbane

Perth



Redback spider
Funnel web Spider
Whitetail Spider

Big sharks
Jellyfish

Sydney

Big sharks
Blue Ringed Octopus

Melbourne

Tasmania

Australasian College for Emergency Medicine

- Speciality college established since 1986
- Areas of focus are:
  - Developing and delivering education/ training/ exams
  - Standards and accreditation
  - Quality emergency care
  - Research
  - Advocacy
  - Strong commitment to professional development for specialists

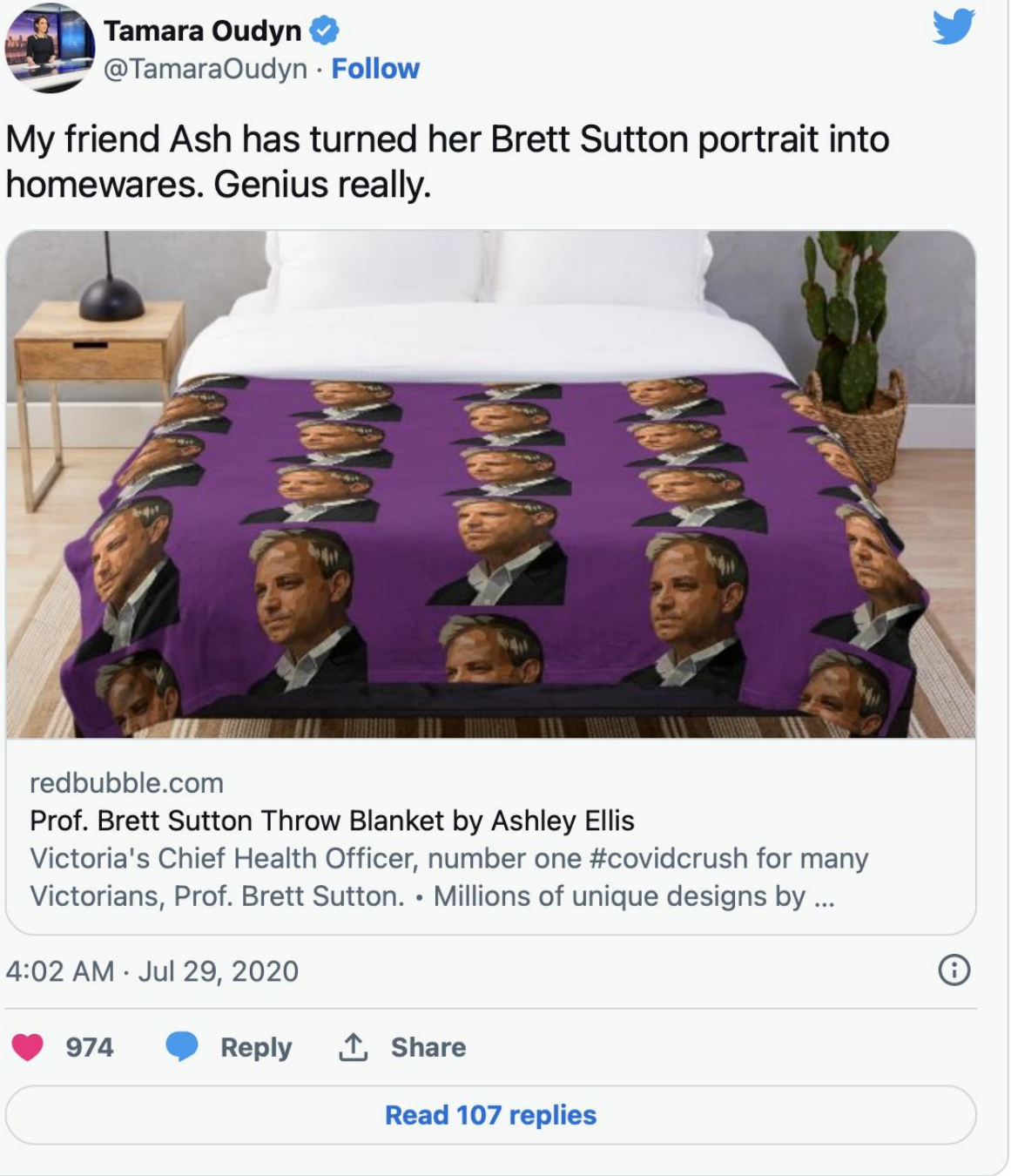
CORONAVIRUS

Melbourne to ease world's longest Covid-19 lockdown

"Today is a great day," Victoria Premier Daniel Andrews said while announcing the end of lockdown.


PØBEL

Meanwhile in Melbourne…



The Austin Hospital, Melbourne

- Major Tertiary Referral Center
- 42 cubicle Emergency Department
  - 6 bed children's area
  - 4 resuscitation/ trauma cubicles
  - Over 90,000 presentations annually
  - 24 bed short stay unit
  - Admission rate 30-40%
- State service for
  - Victorian Liver Transplant Unit
  - Victorian Respiratory Support Service
  - Victorian Spinal Cord Service
  - Victorian Toxicology Service
  - Victorian Poisons Information Centre

ADULT ED SCOVID/COVID INTUBATION CHECKLIST

This is a GUIDELINE. Deviation may be required for patient safety and discretion remains with the senior clinician in charge.

Call ICU 8409

STAFF:
Team Leader Dr
Airway Dr
Airway Nurse
Anteroom Nurse
Runner Nurse

Pre-oxygenation:
- 15-30 L via BVM
- Consider using NIV if needed
- Share mental model with team.

Anaesthetics assistance 3186

EQUIPMENT/ PLAN

EQUIPMENT
- **Bluey** on chest
- **Bin** at head of bed
- **IV drip stand** at foot of bed
- **10 mL syringe** attached to ETT
- BVM with **viral filter** available
- **Double gloves** for airway Dr and Nurse

AIRWAY PLAN
- **A:** VL + bougie/stylet
- **B:** LMA
- **C:** BVM+ Guedel/NPA
- **D:** scalpel/finger/tube

PATIENT

MONITORING
- ECG/ SpO_2/ $ETCO_2$/ NIBP @ 1 min cycle

POSITIONING
- Ear above sternal notch & face parallel to ceiling
- Ramping pillow if obese

HAEMODYNAMICS
- IV access x 2
- Consider volume status
- Vasopressors if needed

PRE-OXYGENATION
- BVM 15-30 L/min, consider PEEP
- Bag if needed
- $ETCO_2$ on BVM = good seal
- Ketamine 0.1 mg/kg if agitated
- NIV if needed: HME Filter, good seal

DRUGS

INDUCTION AGENTS
Rocuronium:
1.5 mg/kg IBW
Ketamine:
1.5 mg/kg IBW
(0.5 mg/kg if shock)

RESCUE AGENT
Metaraminol 0.5-1 mg
Atropine 600 microg
Adrenaline 10 microg

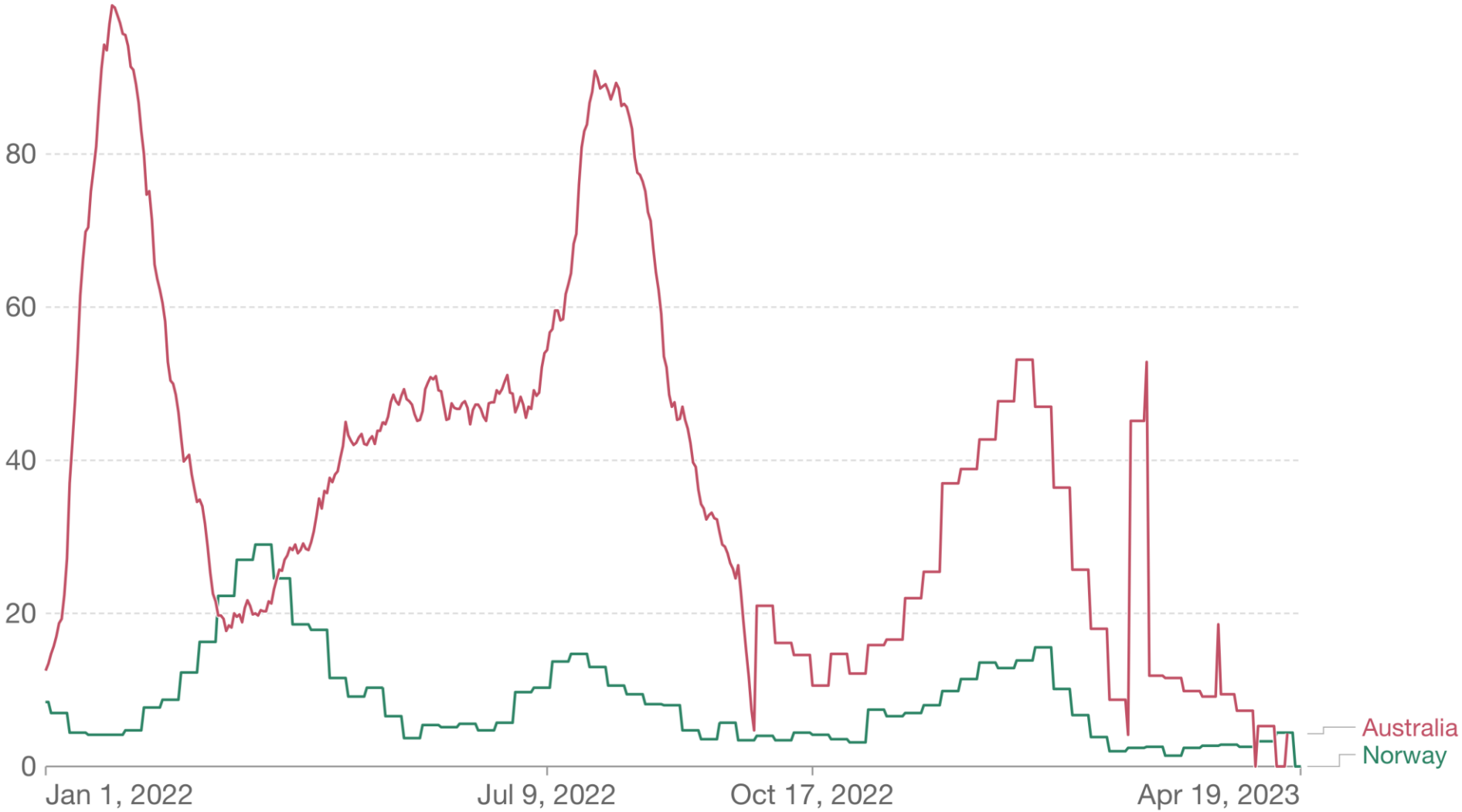
ANALGOSEDATION
Fentanyl: 2 microg/kg bolus then 1 microg/kg/hr
Propofol if needed

Pre-oxygenation: *"Oxygen via BVM/NIV. Bag if needed"*
Give drugs @ 4 minutes.
@ 5 minutes: *"Oxygen/NIV off, mask off"* Intubate.
When tube in: *"Remove bougie gently, Cuff up."*
"Connect BVM circuit. Oxygen on"
"Confirm placement."
"Remove glidescope and put in yellow bin"
"Secure tube."
"Discard contaminated equipment and outer gloves"
Connecting to Oxylog: *"Oxygen off. Clamp ETT. Attach to Oxylog. Clamp off. Oxylog on."*

Daily new confirmed COVID-19 deaths

7-day rolling average. Due to varying protocols and challenges in the attribution of the cause of death, the number of confirmed deaths may not accurately represent the true number of deaths caused by COVID-19.

Our World in Data



Source: WHO COVID-19 Dashboard


NEW SOUTH WALES AMBULANCE
Ambulance
DYD 72L
Emergency Ambulance

Code red as emergency department demand ‘worst it’s been in years’

Coronavirus pandemic

Inside the emergency room: Victoria’s under-pressure hospitals

Overcrowding in Victorian hospitals ‘bigger emergency than Covid’, expert warns

Stressed staff, lack of beds and backlog of people accessing care all contributing to crisis, leading emergency physician says

Hospitals miss emergency care targets as system cracks under pressure

‘Overloaded and dysfunctional’: doctors reveal crisis in Australian emergency departments

Worst wait times seen in 40 years

‘I can’t believe we are in a tent’: Daughter’s distress at hospital wait

Hospital tent city an ‘appropriate’ level of care

Box Hill Hospital’s overflow tents were likened to Guantanamo Bay — but the Health Minister says she is satisfied with the care for patients.

Key Performance Indicators

Hospital timely access to care

Western Health | Northern Health | Alfred Health | **Austin Health** | Bendigo Health

Austin Health

Emergency Care	Target	Result
Ambulance patients transferred within 40 minutes	90%	41%
Triage Category 1 emergency patients seen immediately	100%	100%
Triage Category 1 to 5 emergency patients seen within clinically recommended time	80%	79%
Emergency patients with a length of stay in the emergency department of less than four hours	81%	41%
Number of patients with a length of stay in the emergency department greater than 24 hours	0	20

Source: 2021-2022 Austin Health annual report

Challenges

- Fatigue and burn out
  - Daily code ´yellow´
  - Sick leave
- Workforce retention
- Increased staff working part-time and in private sector
- Public perception and expectations
- Effect on supervision and training

Local Solutions

- Increased spesialists front of house
  - Ambulance bay doctor
  - Waiting room doctor
- Repurposed covid tent
- Retriage in waiting rooms
- Psychological safety and wellbeing

Virtual ED- A New Model of Emergency Care

VICTORIAN VIRTUAL EMERGENCY DEPARTMENT
Northern Health

Welcome to the Victorian Virtual Emergency Department (VVED), a public health service to treat non-life-threatening emergencies.

Please enter the VVED according to the category which best represents you.

Are you Sick/Unwell?

Click here

Are you from Ambulance Victoria?

Click here

Are you an Aged Care Service?

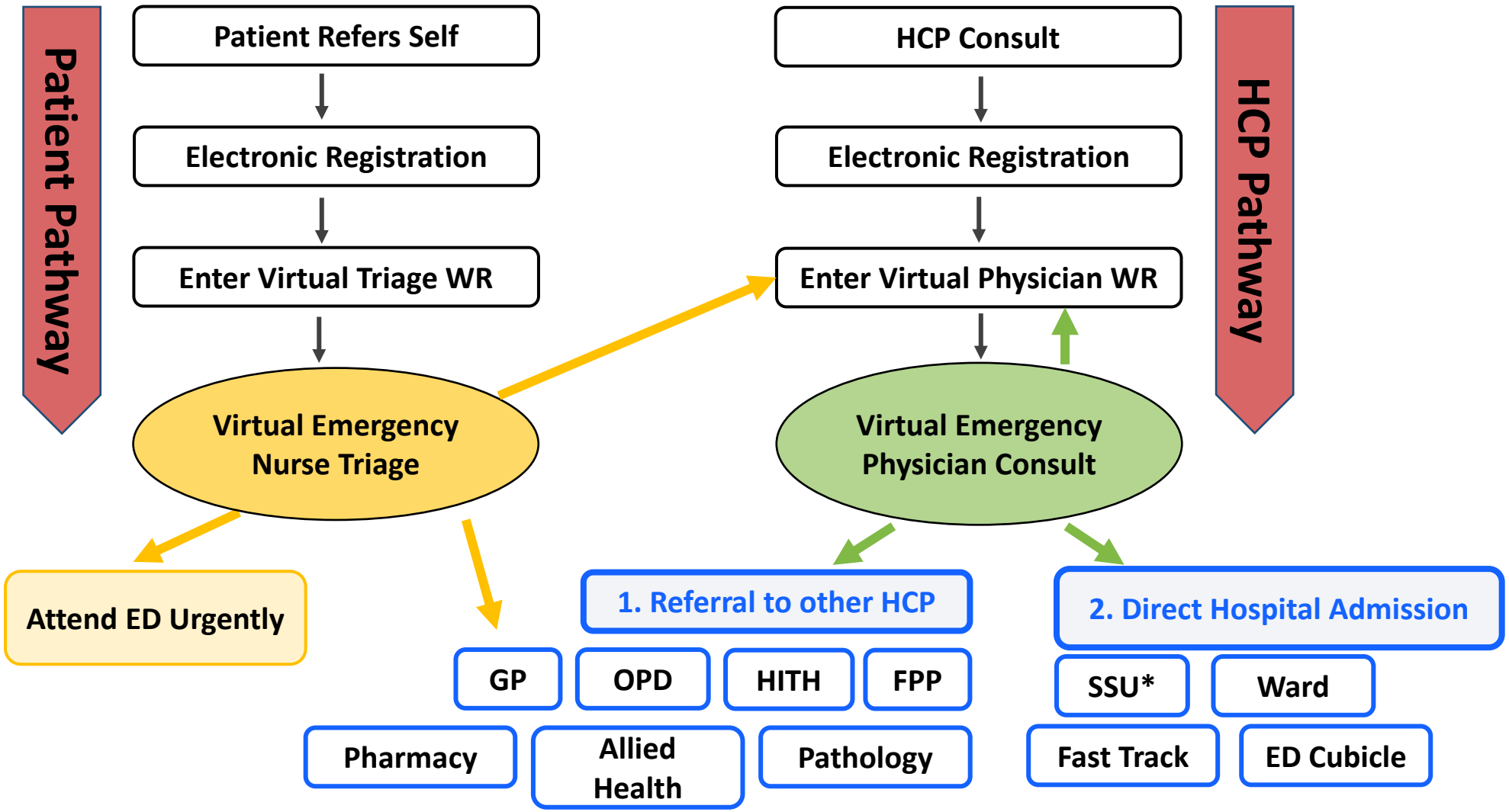
Click here

Are you a Healthcare Provider?

Click here

Learn more about VVED ›

VVED Care Pathways



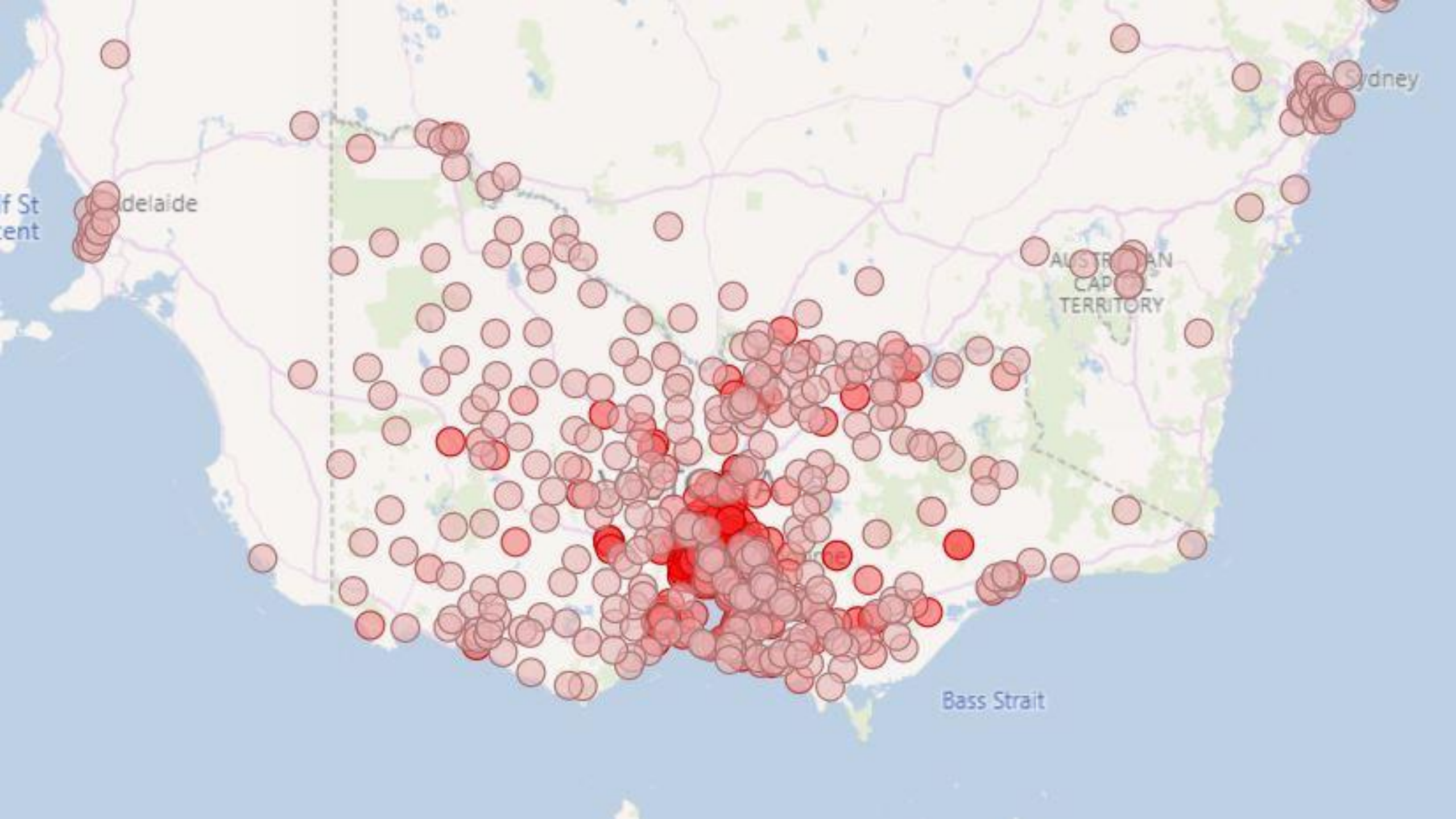
Staffing

- Staffing
  - Emergency Physicians
  - Paediatricians/ Paediatric Emergency Physicians
  - General Practitioners
  - Nurse practitoners
    - Aged care/Palliative care, Paediatric and ED

- Flexible hours
- Frequent changes to procedures

Current State

- Started Oct 2020
- Statewide funding from Feb 2022
- Averaging 300 pts a day
    - Overall ED 70% Diversion rate
        - 50% reduction in aged care transfers
        - 70-80% for adults
        - 80-90% for Paediatrics
- Service runs 24/7
- Referral services to
    - Outreach geriatricians
    - Hospital in the home
    - Palliative care
    - Respiratory Clinics
- Fantastic opportunity for clinicians to expand their scope of practice


Sydney
delaide
TERRITORY
Bass Strait

Challenges

Frequent presenters/complex care

- Mental health
- Self harm
- Drug seeking

Quality of care in the virtual setting

Review of adverse events

Education

Patient perception

The Future

VICTORIAN VIRTUAL EMERGENCY DEPARTMENT
Northern Health

- Significantly increased funding
- Increased staffing
- Expanding services and ancillary services
- Expanded scope of practice for emergency physicians
- Support for regional centers

- Full virtual health service?

ED Overcrowding- A Global Issue

- **In Australia 2020-21**
  - Highest number of annual presentations to ED ever recorded (8.8 million)
  - Average length of stay in an ED for admitted patients was almost 13 hours
  - Six per cent of all people coming to emergency departments either did not wait for treatment or left at their own risk in 2020-21, a 29 per cent increase from 2016-17.
- **Over the last 5 years in Australia**
  - Population growth has been 5% while demand for emergency care has risen 14%
  - Need for hospital admissions increased by 3%
  - The number of available hospital beds per 1000 decreased by 4%

- **Similar experiences and trends have been reported worldwide**

Source: State of Emergency Report 2022, ACEM

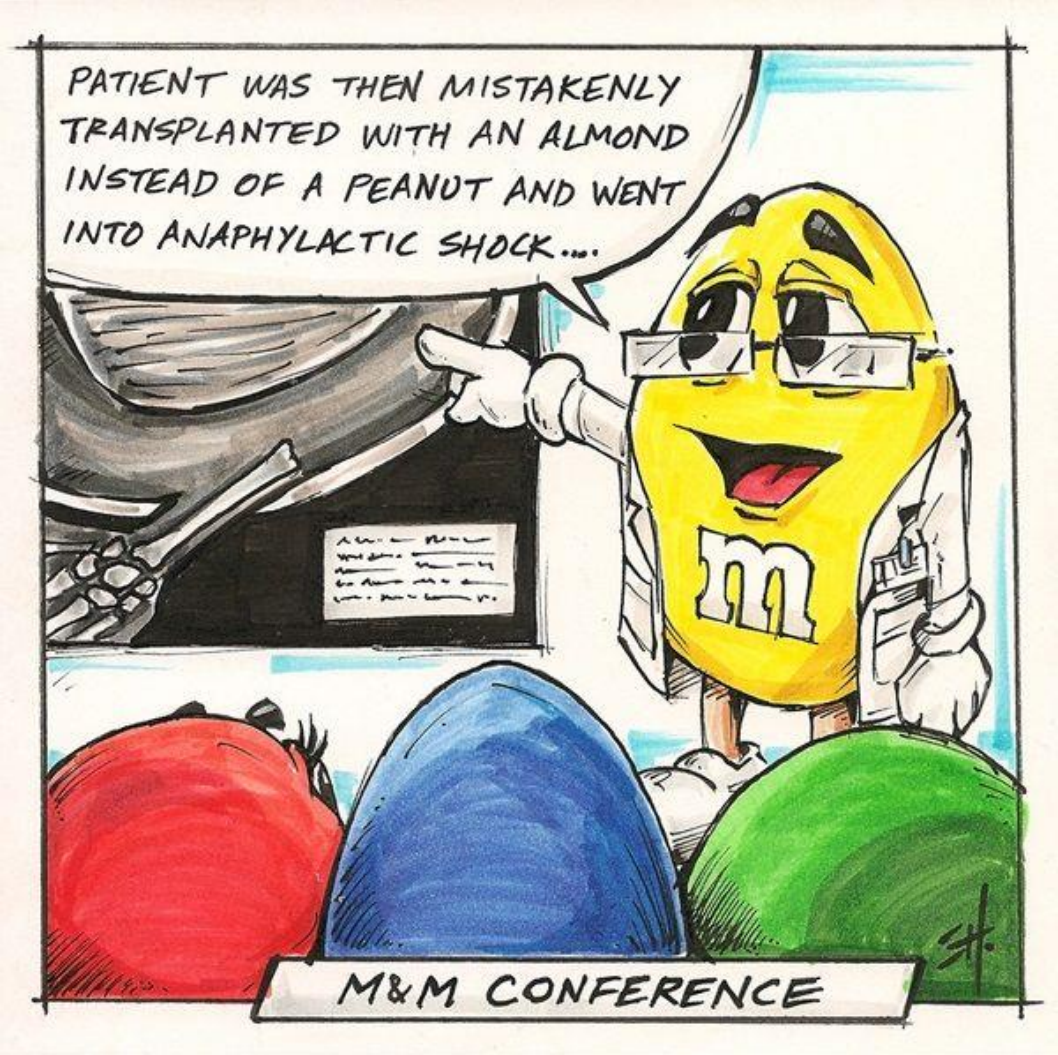
Questions so far?

Building up a culture around emergency medicine as a speciality

- Opportunities for education/ workshops
  - **Morbidity and Mortality Meetings (M&M)**
  - Journal Clubs
  - Simulation and team training
- Participation in conferences both local and international
- Social events

Mortality and Morbidity Meetings (M&M)

- Meetings/audits held at regular intervals
- Systematic review and analysis of serious adverse patient outcomes
  - Deaths (mortality)
  - Harm and near misses (morbidity)
  - Complaints
- Often multidisciplinary with nurses/pharmacists/allied health invited
- Critical analysis of factors contributing to adverse outcomes
- Identification of areas for improvement



M&M Meetings

- Often a project with a resident (presenter) and consultant (chairperson)
- Mortality data often easier to gather than morbidity (reliant on a reporting system)
- No blame/ judgement of individual performance
- Educational

Goulet *et al. Critical Care* (2015) 19:154
DOI 10.1186/s13054-015-0877-x

CRITICAL CARE

RESEARCH Open Access

Unexpected death within 72 hours of emergency department visit: were those deaths preventable?

Hélène Goulet[1,2], Victor Guerand[1], Benjamin Bloom[3], Patricia Martel[2], Philippe Aegerter[2,4], Enrique Casalino[5], Bruno Riou[1,6] and Yonathan Freund[1,6*]

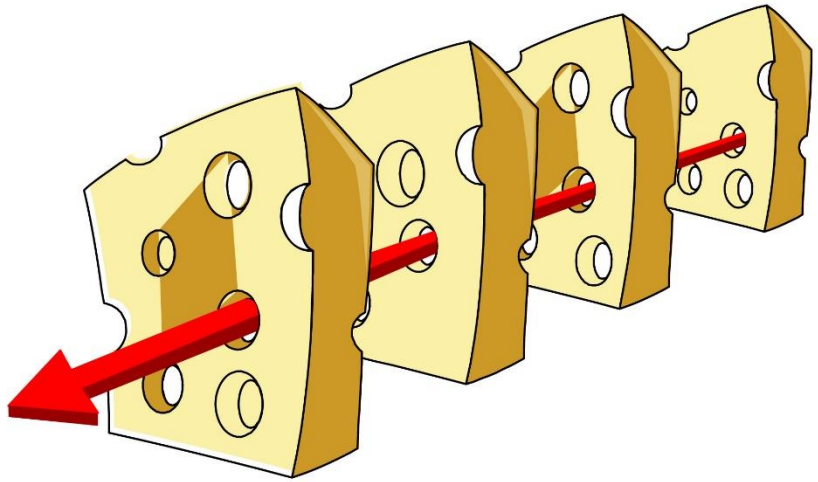
Conclusions: In our sample, more than half of unexpected deaths are related to a medical error, and could have been prevented.

Table 2 Preventable unexpected death

Patient	Age	Main medical errors	Provider	ED diagnosis	Cause of death
1	87	Denial of ICU admission	ICU physician	Sigmoid volvulus	Sigmoid volvulus
2	79	wrong dose of opioids analgesic	Orthopedist surgeon	Urinary retention	Opioid intoxication
3	81	No timely treatment of acute coronary syndrome	Emergency physician	Myocardial infarction	Myocardial infarction
4	79	Pacemaker has not been monitored after a syncope	Emergency physician	Syncope	Cardiac arrest
5	83	No fluid resuscitation no antibiotics	Emergency physician	Fatigue	Severe sepsis
6	80	No treatment of congestive heart failure and no blood transfusion	Emergency physician and orthopedic surgeon	Hip fracture	Congestive heart failure
7	87	No control of hyperkaliemia	Emergency physician	Metabolic acidosis	Cardiac arrest
8	83	Undertriage on arrival	Triage nurse	Intracranial hemorrhage	Intracranial hemorrhage
9	43	No chest X-ray before chest drainage	Emergency physician	Respiratory failure	Hemothorax
10	77	No fluid resuscitation and wrong antibiotic administration	Emergency physician	Severe sepsis	Severe sepsis
11	53	No fluid resuscitation and delay in antibiotic administration	Emergency physician	Urinary tract infection	Severe sepsis

M&M Meetings

- Systematic overview of deaths
  - Cause of death
  - Unexpected vs. expected
  - Autopsy results
  - Length of stay
  - Resuscitation status
  - End of life care
  - Transfers to another department within 24 hours (especially ICU/HDU) from short stay units
  - Frequent admissions
- Identification of a few cases to present in depth
  - Deidentified cases presented in SBAR format
  - Critical analysis of events
  - Identification of learning points/ areas for improvement



System/process error	Non-remediable factors	Cognitive factors
Equipment failure	Atypical presentation	Faulty data gathering
High workload	Complicated medical history	Faulty information processing
Inadequate handoff	Language barrier	Faulty information verification
Inefficient process	Limited ability to provide history	Faulty knowledge
Insufficient resources	Patient body habitus	Other
Interruptions	Patient non-adherence	
Non-handoff communication error	Psychiatric issues	
Poor equipment usability	Rare disease	
Supervision failure	Other	
Other		

M&M Meetings

- Open forum for discussion, teaching and learning
- A way to ensure that lessons learnt from review of critical events in the department are passed onto staff

- Examples of cases discussed
  - Renal colic patient with iliac artery aneurysm
  - Abdominal pain in child with ketoacidosis
  - DVT patient with popliteal artery aneurysm
  - Overlooked ECG in patient with epigastric pain

MJA The Medical Journal of Australia
Australia's most trusted source of medical information

Animalia

Crocodile attacks in the Northern Territory of Australia†

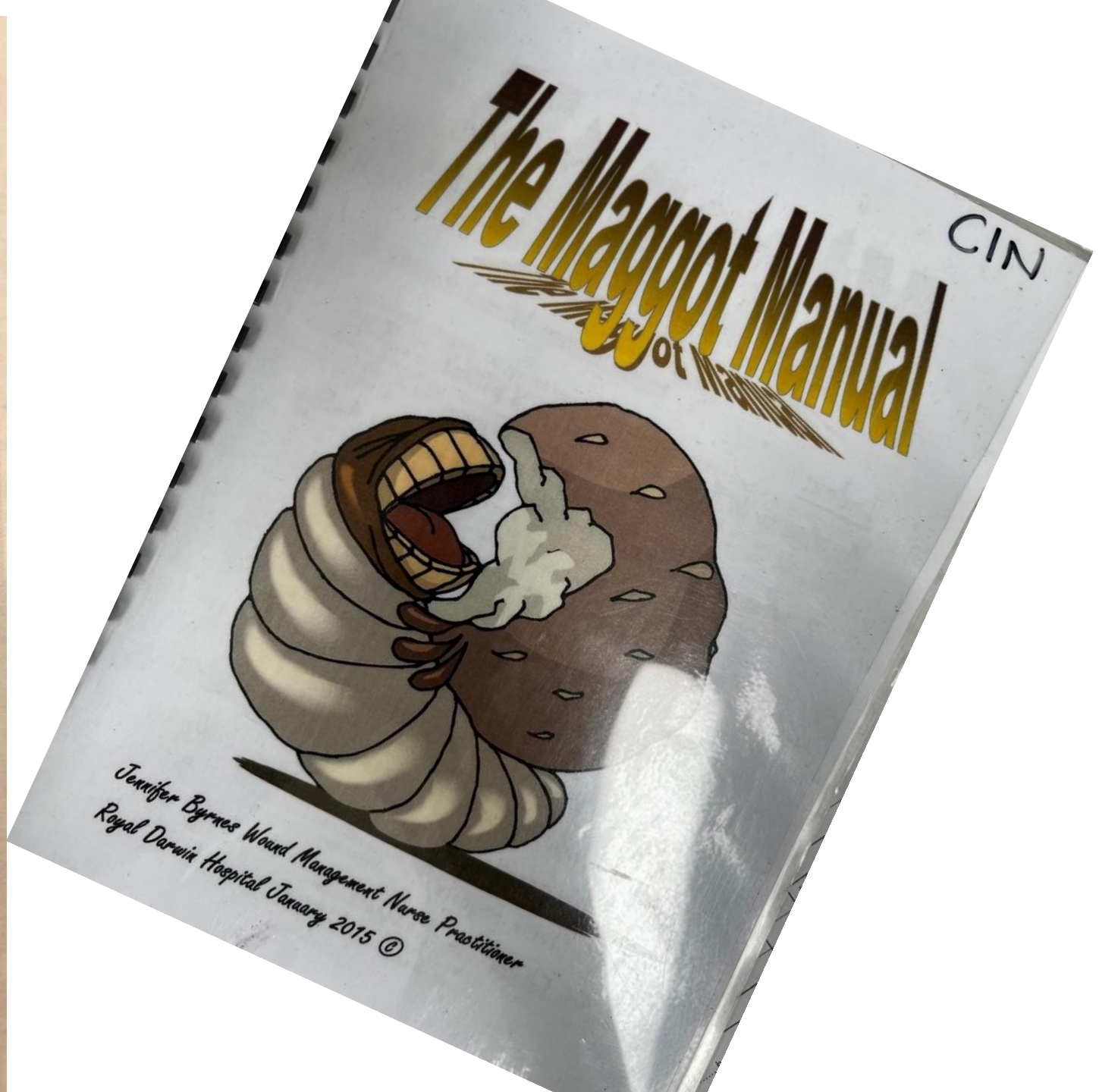
Allan P Mekisic MB BS ✉, Jonathon R Wardill MB BS, FRACS

Stabbing victim lucky to be alive

A MAN lost enough blood to fill four beer bottles when he was reportedly stabbed and cut up to 13 times in a Territory town.

The *NT News* understands the 46-year-old man may have been attacked with a cow horn.

The victim was yesterday




DATE
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Takk!