



Prehospital Management of a STEMI in Extreme conditions

Steven Faddy

Manager, Clinical Programs Evaluation



Prehospital Thrombolysis

Rural and regional patients

Prehospital diagnosis of STEMI and commencement of treatment before arrival at ED

Commenced as proof-of-concept in 2008

Statewide roll-out 2012 to 2015

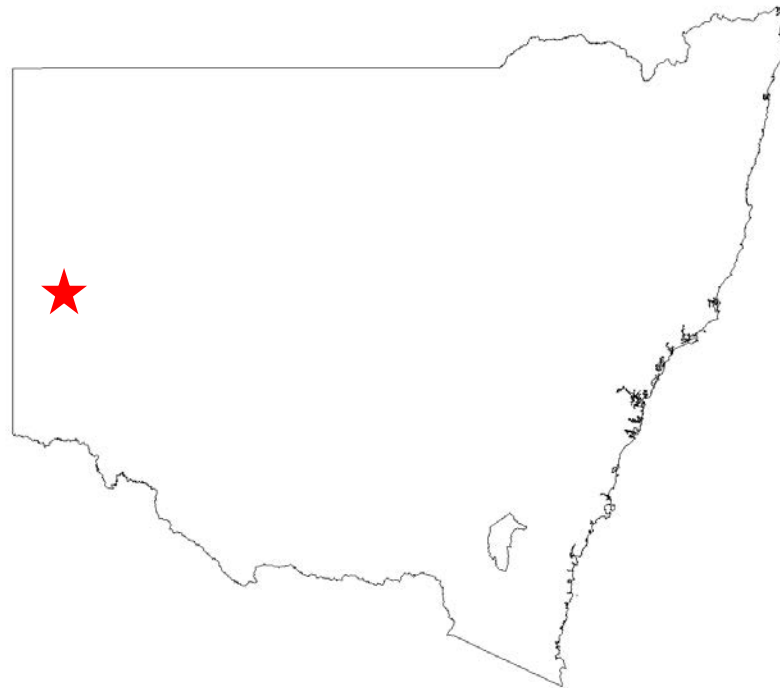
1,760 STEMI diagnosed

1,150 patients received prehospital thrombolysis



Prehospital Thrombolysis

7.4 million population
802,000 sq km





The Situation

Broken Hill is one of the most remote cities in Australia

Entire country gripped by major weather system

Previous two days 84mm rainfall
(monthly average 29mm)





The Case

5.30pm Sunday

Call from Royal Flying Doctor Service

Male 72 years with chest pain

RFDS unable to respond

- Extreme weather
- Local flooding



Location

150km from Broken Hill

70km sealed road then 79km unsealed road

Definitely need 4WD

Neighbour sent to establish whether nearby creek would be passable

Updated information

Creek is currently passable

Alternate route suggested

- 90km sealed road and 58km unsealed road
- More areas of mobile phone reception



Location

THE UNSEALED ROADS WERE VERY WET AND MUDDY AND THE LANDCRUISER WAS STUGGLING AT TIMES TO MAKE IT THROUGH.

DIFFICULT TRANSPORT FROM PROPERTY DUE TO INCREASING RAINFALL AND WATER OVER ROAD – ROAD BOGGY++

Crew arrived at 8.25pm

Response time 2hr 45min



Patient

Male, 72yo

Chest pain since 5pm

Two episodes syncope

Shortness of breath

PPM in situ 3 years (bradycardia)

Instructed to self-administer 300mg aspirin
and GTN spray

Two of four 12-lead ECGs identified by
algorithm as STEMI

Transmitted to reading service

Initial Observations

GCS: 15

HR: 60

BP: 160/90

RR: 18

Sats: 98% on 8L/min O₂

Pain: 3 (out of 10)

BSL: 6.2 mmol/L

Pale, not diaphoretic

Nil current SOB



Diagnosis

Mobile phone unable to connect

Satellite phone unable to connect

Phoned hospital on house phone

ED physician consulted with colleague and diagnosed STEMI



Treatment

Aspirin

GTN

Oxygen

Morphine withheld (allergy)

Clopidogrel 300mg

Tenecteplase 50mg

Enoxaparin 40mg iv
90mg sc

Critical decision

Remain at homestead until all
medications administered and
patient stable

After leaving homestead, 1.5 hours
without phone or radio reception



Outcome

Return journey completed in 2.5 hours

Thrombolysed 3.5 hours after onset of chest pain

- more than 3 hours before TL would be possible in ED

LOS: 4 days

Discharged home with Cardiologist follow-up



Challenges

Weather

Distance

Communication

End of shift

No back-up



Extreme weather events

Becoming more common

- Number
- Variety
- Intensity

Emergency Management Principles:

Preparation

Planning

Response

Recovery



East Coast Low – June 2016

Unforeseen event

Combination of events

Reeling Collaroy faces another East Coast Low hammering





Thunderstorm Asthma – Nov 2016

- Poorly understood phenomenon
- Involve communities in planning

Thunderstorm asthma callers told
'ambulance on its way' when none were
available

**Thunderstorm asthma: 'You're talking
an event equivalent to a terrorist
attack'**



The next event?

Bushfire season brought forward in NSW by two months after 'next to no rain'



Discussion points:

How can we be ready to protect communities when the nature of the next event is unclear