A large scale implementation of the ADAPT
Accelerated Diagnostic Protocol in Queensland:

Impact on hospital length of stay and admission
rates for possible cardiac chest pain

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Faculty Disclosure

• The presenter has advised that the following presentation will NOT include discussion on any commercial products or service and that there are NO financial interests or relationships with any of the Commercial Supporters of this year's ASM.
Background

- Chest pain is one of the most common primary presentations to Australian Emergency Department’s (ED’s)

- AIHW Emergency Department Care, 2014 – 15, Australian Hospital Statistics show 251 537 patients presented to ED’s with ‘pain in throat and chest’

- Potential for serious pathology – most notably Acute Coronary Syndromes (ACS)

- 2006 NHF / CSANZ guidelines describe the risk stratification of patients to low, intermediate and high risk.

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ED Presentations suggestive of ACS

- 622 (67%) Acute coronary syndrome
- 193 (21%) Other cardiovascular conditions
- 103 (11%) Non-cardiac chest pain
- 8 (1%) Not diagnosed

NHF / CSANZ risk stratification

- **ACS Diagnosed**
- **No ACS Diagnosed**
ADAPT Accelerated Diagnostic Protocol (ADP)

- Thrombolysis In Myocardial Infarction (TIMI) score = 0 at presentation

- No new ischemic changes on electrocardiograph at 0 and +2 hours

- cTnl level at 0 hour and +2 hours below institutional cutoff for an elevated troponin concentration

Than M, et al S. 2-Hour accelerated diagnostic protocol to assess patients with chest pain symptoms using contemporary troponins as the only biomarker: the ADAPT trial. J Am Coll Cardiol 2012; 59: 2091-2098
Drivers for change…..

• **Increasing pressure on ED’s.**
  
  2012: National Health Reform Agreement
  − Funding targets linked to the 4 hour National Emergency Access Target (NEAT)

• **Innovation funding**
  
  2013: The Queensland Department of Health - Health Innovation Fund (HIF)
  − Innovative solutions with the potential for statewide application
  − Four priority funding areas including reducing waiting times for EDs.
Accelerated Chest pain Risk Evaluation (ACRE) Project

• Purpose:
  – To measure the effect of the ADAPT ADP on
    1. ED Length of stay (LOS)
    2. Total hospital (LOS)
    3. Admission rates
Accelerated Chest pain Risk Evaluation (ACRE) Project

• **Method:**
  - Centrally-based ACRE project team
  - QH Hospitals selected based on access to laboratory pathology
  - Engagement of key stakeholders and hospital executives
  - Face to face meetings
  - Close collaboration of ACRE project team and hospitals
  - Analysis and feedback
Accelerated Chest pain Risk Evaluation (ACRE) Project

• Data:
  – 12 months pre-implementation data collected from the Emergency Department Information System (EDIS)
  – Post-implementation data identified ADP-suitable patients with EDIS project box
  – Linked to inpatient records where relevant
  – 16 eligible QH hospitals between October 2013 and August 2015
Results

TOTAL PATIENTS

Pre implementation: 32 066
Post implementation: 33 017
Possible Cardiac Chest Pain: 25 023
Managed on ADP: 5 815

23.2% managed on ADP
(95% CI: 22.7 – 23.8%)
Results

Median Total Hospital LOS

Pre implementation: 1210 (IQR: 511 – 3494)
Post implementation: 806 (IQR: 368 – 2300)

Decrease of 404 min
(95% CI: 370 – 437)
Results

ED LOS

Pre implementation: 230 mins (IQR: 163 – 352)
Post implementation: 213 mins (IQR: 150 – 307)

Decrease of 17 mins
Results

Hospital Admissions

Pre implementation: 70.4%
Post implementation: 57.3%

Absolute decrease = 13.1%
(95% CI: 12.3 – 13.9%)
Conclusion

Small local gains

= Significant rewards collectively
Conclusion

Success factors for large scale clinical redesign:

1. Key stakeholder engagement
2. Strong evidence base from locally derived research
3. Clinician-led change
4. Adaptability of pathway to fit local processes
5. Continual feedback and communication