Aim Statement:
By January 2020, the average time spent by children attending ED at Children’s Hospital at Westmead will be reduced by 50%.

Background to problem worth solving
Overcrowding is one of the leading problems and one of the most common patient safety risks identified in the ED. ED performance (ETP) at CHW demonstrates marked seasonal variation; overall performance is well below target levels, with further deterioration in 2018.

Team members
- **Sponsors**
  - Dr Joanne Ging (SCHN Acting DCO)
  - Dr Glen Farrow (SCHN DCG)

- **Project Team**
  - Team Leader – Dr Marino Festa
  - Rebecca Nogajski, CHW ED Medical HoD
  - Leonnie Dawson, CHW ED Nursing HoD
  - Nadine Mari, Dominic Sertori, CHW ED TL
  - Luke Moriarty, CHW AHNIM
  - Sarah Wood, CHW Patient Flow Manager
  - Amanda Mansfield, CHW ED Fallow
  - Sharon Roumanos, SCHN Clinical Redesign
  - QI Advisor – Chrsissy Ceety, SCHN
  - Consumers – CHW ED Consumer Advisory Group

Link to National Strategic Imperative
- Australasian College for Emergency Medicine’s Statement on emergency department overcrowding revised 2018

**Change concepts:**
- Plans to sustain and share change
- FirstNet data capture and reporting will be standardised across both EDs in SCHN.
- PDSA cycles will continue alongside clinical redesign in ED, medical, surgical and patient flow areas.

**Literature review**
- Boyle A et al. Emergency department crowding: time for interventions and policy evaluations 2012
- Trzeciak S et al. ED overcrowding in the US: an emerging threat to patient safety and public health 2003
- Fatovich D, Hirsch R. Entry overload, emergency department overcrowding, and ambulance bypass 2003
- Richardson D. Increase in patient mortality at 10 days associated with ED overcrowding 2006

**Process Map:**
- Current Process: Patient in ED presenting in the evening with abdominal pain
- Desired Process: Patient in ED presenting in the morning with abdominal pain

**Diagnostic Data:**
- Patient Delays in ED greater than 4 hours - CHW (August 2018)
- ED Delay (Non-ED) at CHW - August 2018

**Driver Diagram:**
- Overcrowding occurs frequently and is one of the most common patient safety risks identified in the ED

**Change concepts**
- First Change Idea tested via a PDSA Cycle: ED Senior Early Assessment (SEA) for patients streamed to Acute Assessment Area (previously known as Cubes)

**Discussion**
We hypothesised a direct link between overcrowding and ETP; this QI project is aimed at reducing time spent in ED for all patients.

ED attendances fluctuate between summer and winter seasons. This is reflected in seasonal variation in ETP. Daily ED admission and discharge times are also markedly out of phase. Introduction of FirstNet into CHW ED mid 2018 has enhanced availability of accurate data.

Baseline data has now been collected over the last 6 months, mainly over the summer season and prior to any major interventions. In this time we have evaluated diagnostic data to develop a deeper understanding of the impact of overcrowding on ED performance in all patients, regardless of 4 hour targets or whether the patient is admitted or discharged.

**PDSA Cycle 1**
- First Change Idea tested via a PDSA Cycle: ED Senior Early Assessment (SEA) for patients streamed to Acute Assessment Area (previously known as Cubes)

**Results**
Main Outcome and Process Measures

**Plans to sustain and share change**
FirstNet data capture and reporting will be standardised across both EDs in SCHN. PDSA cycles will continue alongside clinical redesign in ED, medical, surgical and patient flow areas.