Case for change
The Medical Imaging Department at Nepean Hospital was seen as a major bottleneck in diagnosis, treatment, and patient flow, particularly in regards to Emergency patients and Emergency Treatment Performance (ETP).

The consequences of not improving:
- increasing demand remaining unchecked
- our service failing further behind targets
- falling staff morale

Goal
Timely, efficient and safe care of patients requiring medical imaging services – specifically, an improvement in turnaround times leading to an improved patient experience.

Objectives
Specific targets around turn-around times resulting in an improved service for both our referring clinicians and patients.

Method
The Centre for Healthcare Redesign Methodology was used for this redesign project, and the team was a collaboration between Nepean Hospital Radiology Staff and the Agency for Clinical Innovation.

Diagnostics
Qualitative and quantitative data was gathered using a variety of methods: interviews, patient surveys, process mapping sessions, tag-a-longs, workshops, patient experience trackers and Radiology Information System (RIS) data captures.

Over 150 issues were raised during our diagnostics phase, stratified into 5 key areas:

- Referral Process
- Patient
- Communication
- IT Systems
- Transport

After root cause analysis, the issues were prioritised.

Planning and implementing solutions
Consultation with all stakeholders following solution design workshops resulted in the following prioritised solutions:

- Radiology prep & procedure fact sheets to be accessible on the intranet
- Review current staffing and rostering allocations and make changes within Radiology
- Streamlining the referral process for non-prep head and spine CT scans
- New imaging transport role for ED patients
- Availability of appropriate equipment within Emergency
- New waiting bay for ambulatory ED patients
- Clearly defining staff roles including escort roles
- Establishing new efficient communication channels
- Improving the IT access amongst departments

Results to date
Test and prototype developed for CT and plain film CT scans to support 24 hour reporting of non-contrast head and spine CT scans.

Test and prototype developed for selected CT and plain film CT scans to support 24 hour reporting.

Test and prototype developed for CT and plain film CT scans to support 24 hour reporting.

Implementation of new imaging transport role and role clarification.

Update staff information system available on Radiology & Nuclear Medicine Agency for Clinical Innovation.

Changes to FirstNet to improve IT access amongst departments.

IT Systems

Sustaining change
The implemented solutions will be sustained by ongoing monitoring of weekly data and review at fortnightly project meetings. In addition the relationship built with the Emergency Department will be fostered with regular meetings to address ongoing issues.

Process owners are taking ownership and responsibility of the changes, modelling behaviour and supporting benefits.

Ongoing education and positive reinforcement to embed changes into our daily business will strengthen sustainability in the face of a changing workforce.

A new Implementation Steering Committee will be chaired by the Project Executive Sponsor on a monthly basis to ensure the project work continues.

Conclusion
Our project methods, results and learnings will be shared on the Innovation Exchange and through ACI’s Medical Imaging committees – applicable for any hospital with imaging as increasing demand into MI requires more efficient patient flow.

This project has already demonstrated improvements in patient flow, process efficiencies and intra-staff communication. The relationship between Medical Imaging and Emergency department has been strengthened and we will continue to build on these improvements in order to sustain better patient care.

Acknowledgements
The Improving Your Image team would like to thank our sponsors, Kevin Hedge (GM Nepean Hospital) and Peter Flynn (District Medical Director).

Danielle Xerri, Clinical Redesign and Innovations Project Officer

Staff members of the Nepean Medical Imaging, Emergency and Ward 4B (Neuro).

Agency for Clinical Innovation & Centre for Healthcare Redesign

Contact
Andrew Teece – Chief Radiographer Nepean Hospital
Ph: 4734 2422 andrew.teece@health.nsw.gov.au

Annie Hutton – Network Director Radiology & Nuclear Medicine – Ph: 9644 4624 annie.hutton@health.nsw.gov.au