INTRODUCTION

During radiological procedures, the use of contrast media may be required to improve the visibility of blood vessels and contrast of structures within the body. As contrast media used can cause kidney damage in people with poor kidney function, creatinine blood test prior radiological procedure is necessary especially for those with history of kidney problems.

PROBLEM IDENTIFIED:
Outpatients who has invalid or no creatinine results were referred back to their respective requesting doctors to get their creatinine tests done. Scans were delayed and long waiting hours for patients arise.

OBJECTIVES

1. Streamline the workflow for outpatients creatinine test to provide timelier scan procedure, so that proper treatment can be provided.
2. To avoid long waiting hours and increase scan turnover rate in our department.
3. To improve patient centered processes and services, hence, to increase department service quality.

METHODOLOGY

The team adopted the PDCA (Plan-Do-Check-Act) cycle for this project. Identification of root causes was done with the aid of the Ishikawa diagram (figure 2). Value Stream Mapping (VSM) was used to identify the inefficiencies that hold up the processes, so that new workflow can be designed and implemented. Rapid experiment was performed to ensure feasibility of the workflow before rolling out. The project improvement roadmap is illustrated in figure 1.

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The VSM principles were used to analyze the current workflow situation and identify “wastes” in the processes (figure 3).
- The total process / value added (P/T / VA) time is 64 mins.
- The total waiting / non-value added (W/T / NVA) time of this current workflow is 139 mins.
- Bottlenecks of this current workflow were identified and encircled in RED.

In the new enhanced workflow, blood taking will be done by our neuroradiology nurses and dispatch blood vial immediately to the laboratory.
- The total process / value added (P/T / VA) time is 49 mins.
- The total waiting / non-value added (W/T / NVA) time of this current workflow is 87 mins.

RESULTS

As blood taking and despatching processes are done by the Neuroradiology nurses, the estimated time for patient to return to department for procedure has also increased in accuracy. Patient’s satisfaction has increased as they are not required to walk and wait at the NSOCs. The total lead time for the creatinine result is also greatly reduced by 33%.

CONCLUSIONS

- We have achieved our study goal of reducing the outpatient’s waiting time and increase scans turn over rate in Neuroradiology department.
- The next thing on our agenda will be looking into the long waiting time for laboratory process.