Exercise Stress Echocardiogram (ESE) is an ultrasound stress scan for the detection of obstructive coronary artery disease. At our laboratory, about 25 scans are performed daily, in 3 rooms. A typical patient journey as summarized in the following Value Stream Map (VSM):

**Aim:** To improve patients’ waiting time for cardiac stress tests, using the VSM and simple Lean queuing theory.

**METHODOLOGY**

The appointment schedule was simulated based on the current appointment template, to show the impact of appointment time on the waiting time. Just base on template design alone, 7 patients waited more than 45 min, this translates into a total waiting time of 195 mins waiting time for the 27 patients scheduled.

**Interventions.**

Based on simple queuing theory principles, the team redesigned a new appointment schedule template by determining the most appropriate appointment intervals based on the median procedure cycle-time that minimise patient waiting time.

**RESULTS**

After implementation, a repeat VSM for 24 patient journeys showed there is an average reduction of 13 min journey time per patient!

**INTANGIBLE BENEFITS**

- Improved waiting time for ESE test in the Lab
- Improved patient and caregiver experience
- Improved staff morale
- Improved efficiency
- Enhanced teamwork for holistic patient care
- Maintain professional image of hospital
- Reduced unnecessary complaints

**CONCLUSION**

Using lean queuing theory and the use of a simple simulation exercise, the team was able to gain deeper understanding of patients’ journey and introduce the necessary measures to decrease average WT for ESE, as well as total patients’ duration in our lab. This change has helped in optimization of our current resources within the lab, creating an opportunity for higher productivity, yet providing better patients’ experience.