

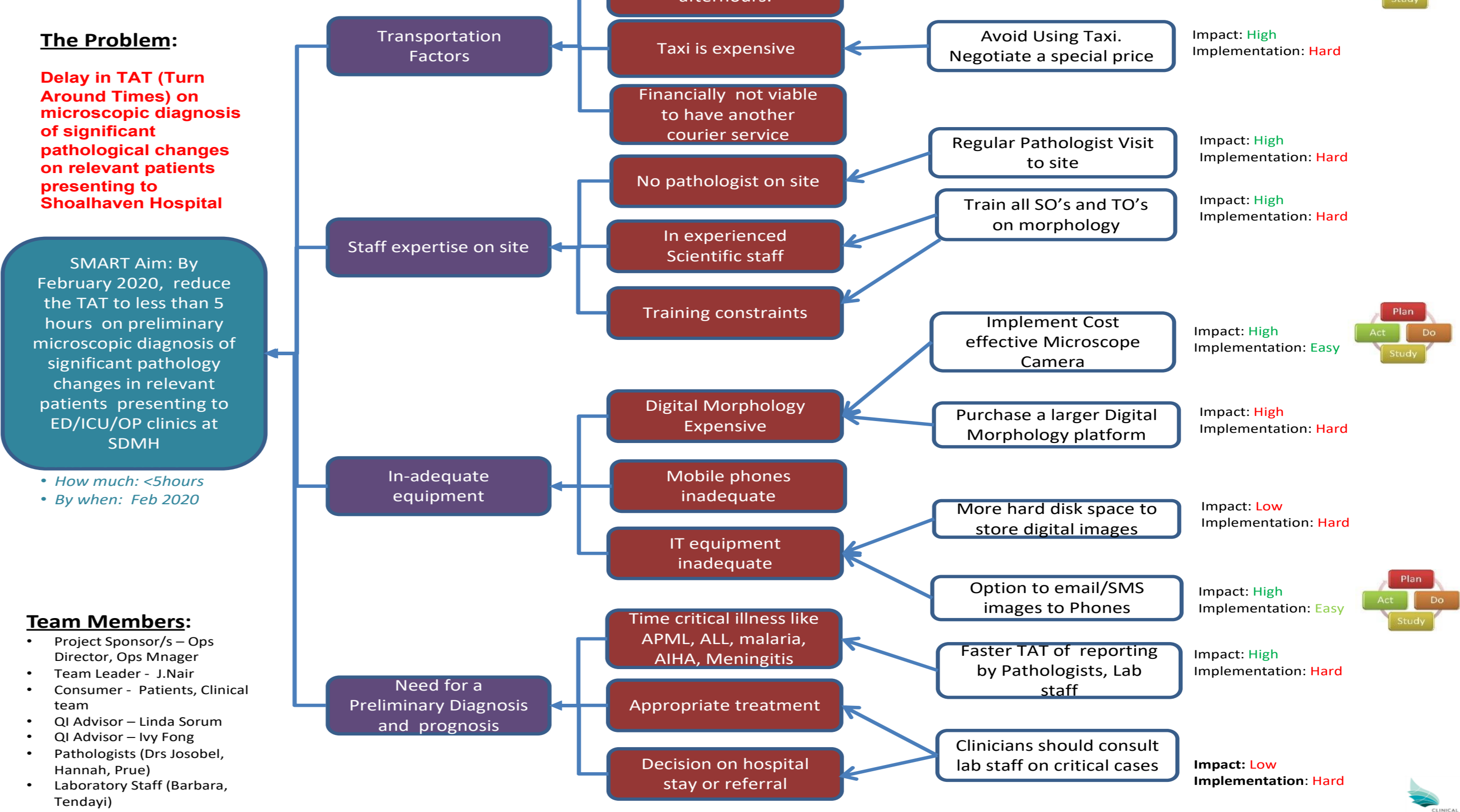
Aim Statement:

By February 2020, reduce the TAT (Turn Around Times) to less than 5 hours on reporting of preliminary microscopic diagnosis of significant pathology changes in relevant patients presenting to ED/ICU/OP clinics at Shoalhaven Hospital, Nowra.

Background to problem worth solving

SDMH (Shoalhaven Hospital) laboratory is a 24x7 Laboratory and does not have a Pathologist on site. Critical blood films or Gram stained films may only be provisionally screened locally by scientific staff and will need to be transported to the larger laboratory at Wollongong hospital for a Pathologist review. The transportation of slides occur via internal couriers. The courier service operates between Wollongong hospital and SDMH Lab at 6.30am, 11.00am and 16.00pm. After these times, there is no courier service. Any urgent specimens requiring referral to Wollongong after these hours will require commercial taxi service and is expensive. This may impact on the TAT of reporting of critical microscopy results from 5 hours to 24 hours. The project aims to reduce this TAT using Digital morphology as an option. A portable microscope camera will help to take digital images and the scientist at the local laboratory can upload these images to a shared drive for the pathologist based at Wollongong laboratory to review and make a clinical judgement. The use of digital morphology has been endorsed by local Pathologists and trial runs using the camera has proved that TAT can be improved significantly helping the clinicians to make better diagnosis.

Driver Diagram



The Problem:
Delay in TAT (Turn Around Times) on microscopic diagnosis of significant pathological changes on relevant patients presenting to Shoalhaven Hospital

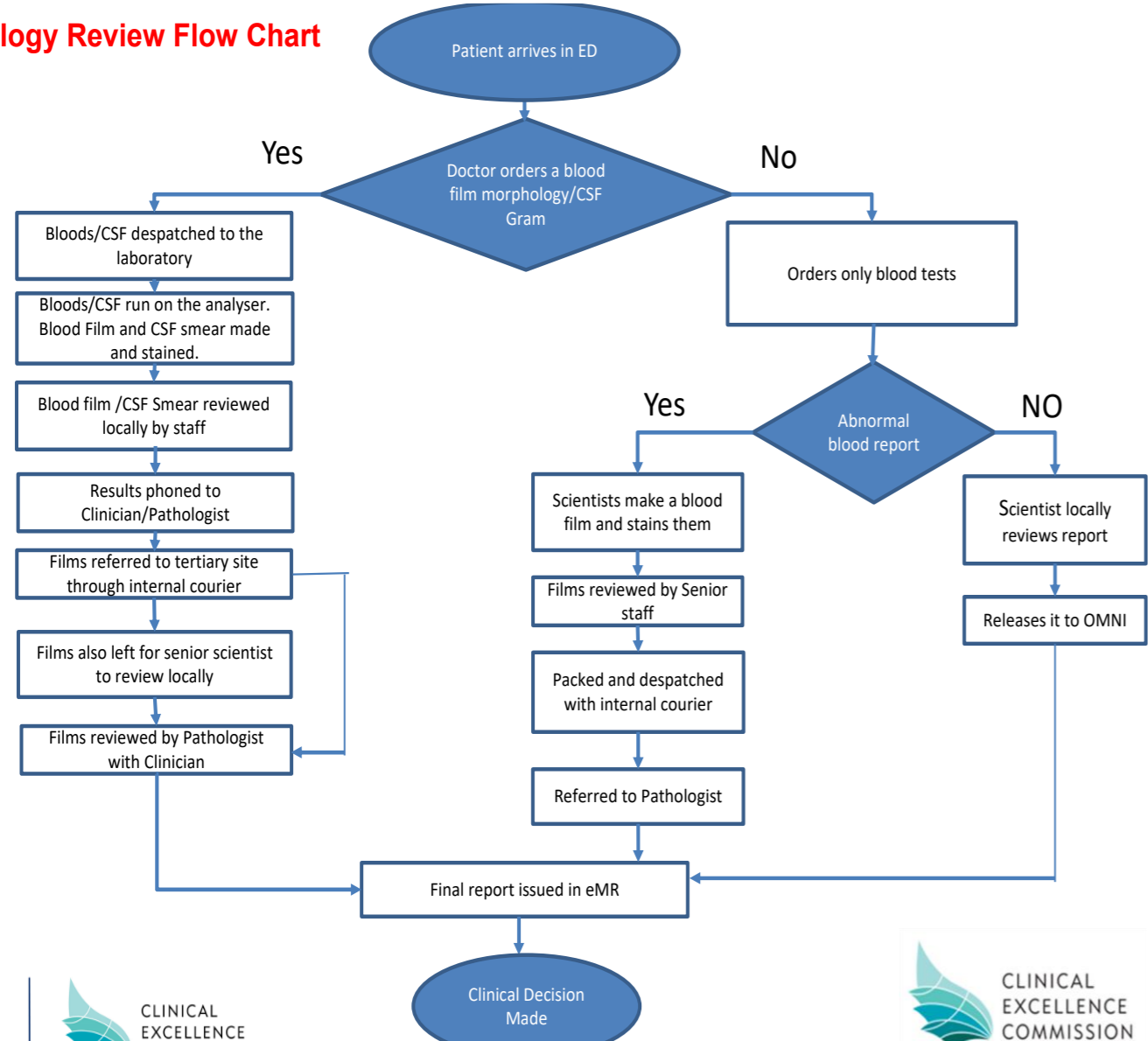
SMART Aim: By February 2020, reduce the TAT to less than 5 hours on preliminary microscopic diagnosis of significant pathology changes in relevant patients presenting to ED/ICU/OP clinics at SDMH

• How much: <5hours
• By when: Feb 2020

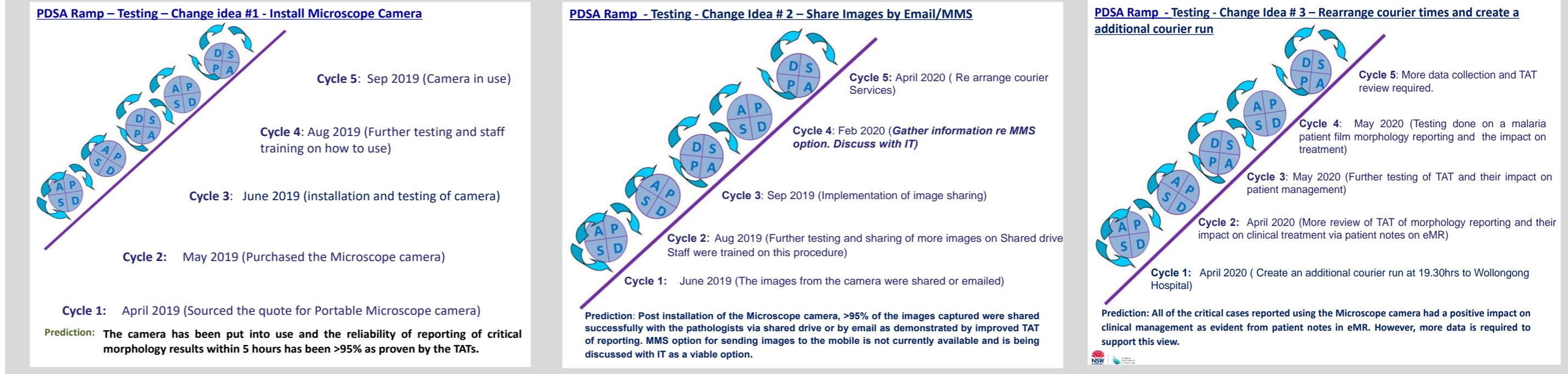
Team Members:

- Project Sponsor/s – Ops Director, Ops Manager
- Team Leader - J.Nair
- Consumer - Patients, Clinical team
- QI Advisor – Linda Sorum
- QI Advisor – Ivy Fong
- Pathologists (Drs Josobel, Hannah, Prue)
- Laboratory Staff (Barbara, Tendayi)

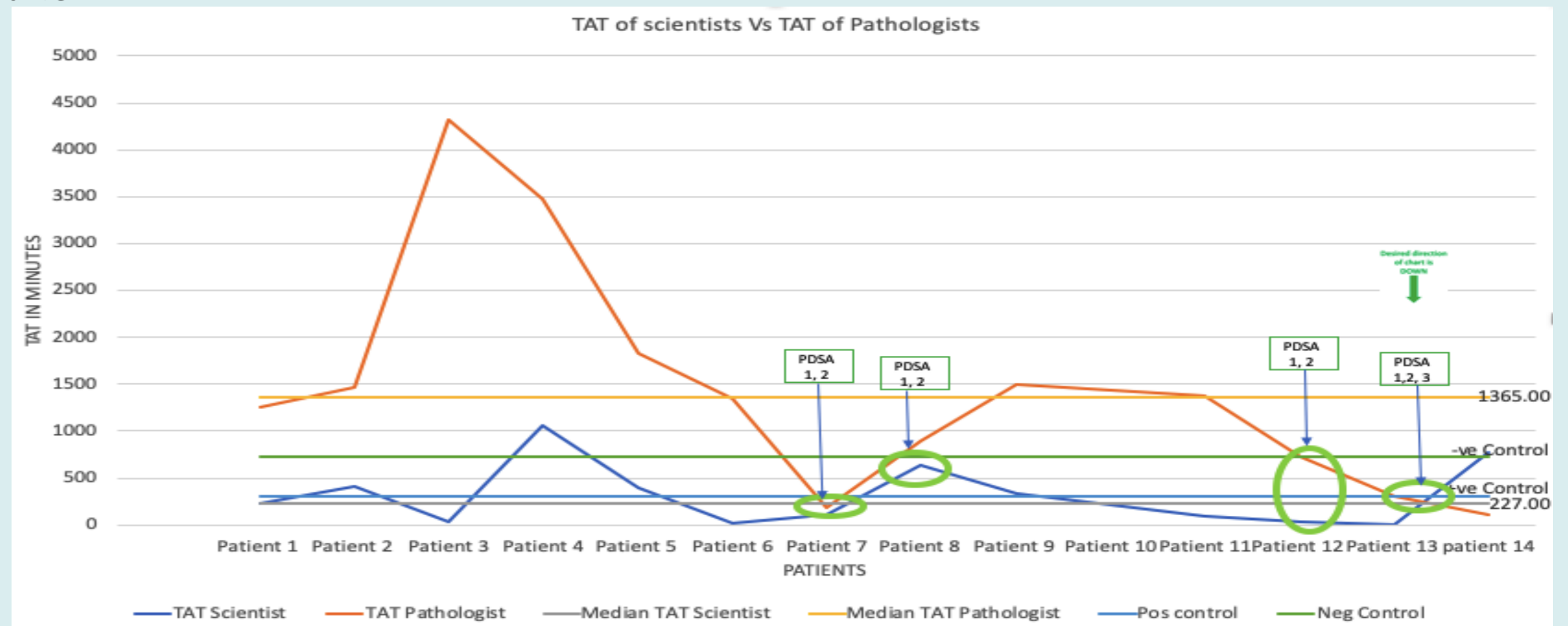
Morphology Review Flow Chart



Change Idea 1, 2 & 3 – PDSA Ramps

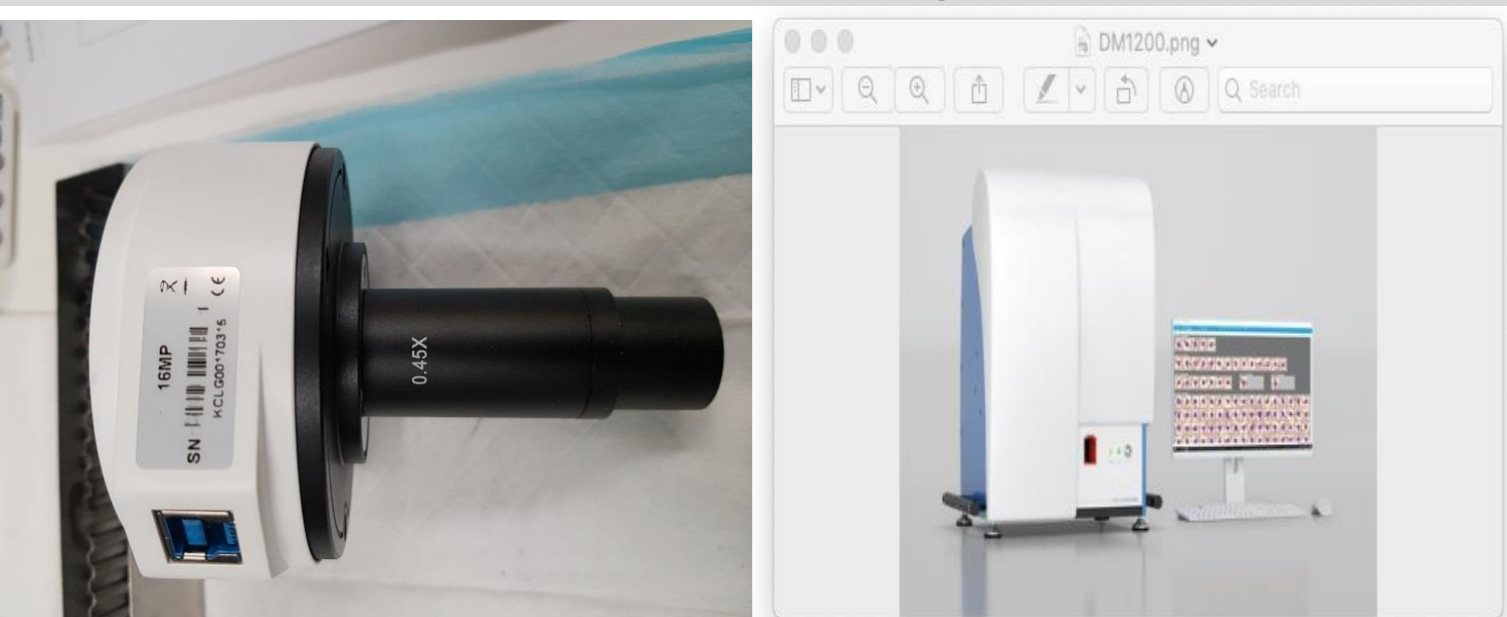


Results:



Cost Savings:

Microscope camera costs \$1500 whereas a digital platform costs \$140000



Plans to sustain change:

- More training and education to the staff to use the Microscope camera when they have to review a difficult film morphology.
- Standardise the procedure of use of Microscope camera
- Write appropriate documentation on the installation and use of Microscope camera.
- I would be striving to collect and measure as much data as I can to support my project so that this project could be put into effective use in smaller labs where Pathologists are not on site.
- Liaise with IT on ways to send images as MMS to on call Pathologists

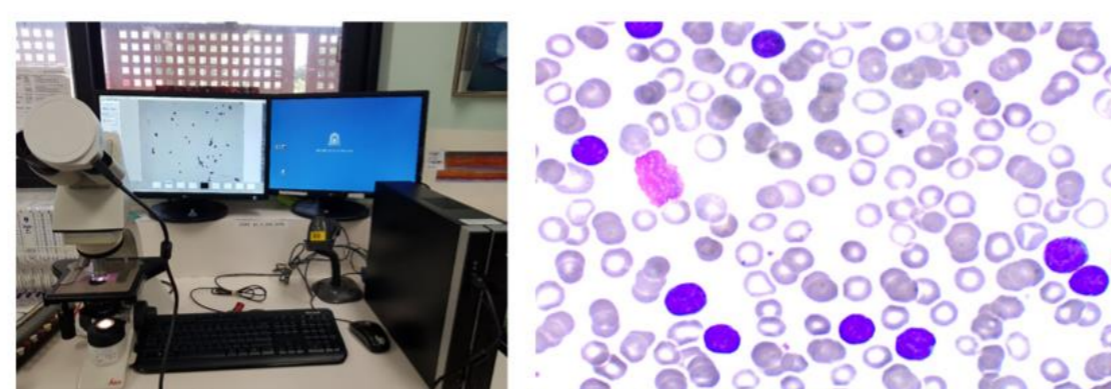
Overall Outcome of Project:

Program Progress Score 3.5

The overall outcome of this project has been satisfactory and the stretch goal has been achieved to an extent. The TAT of microscopic reporting of significant pathological changes in patients has reduced to less than 5 hours whenever the Microscope camera has been used effectively. As per the words of Hannah Hsu, Haematology Registrar at Wollongong Hospital:

“ In general, Prue and I have found the camera very useful. Particularly for those cases afterhours or approaching afterhours when the next courier is a long way in excluding an obvious Pathology e.g., Acute Leukemia in Patient 7(name changed). Perhaps less useful in cases when we can't entirely exclude cases based on 3-5 snaps shots and be definitive about a diagnosis. But overall, we have found it very helpful in unwell patients and would support its continuing use”

Microscope camera Setup & Images



Plans to spread /share change:

- Submit a proposal to NSWHP to implement this camera in rural labs.
- Submit an entry in ACI Innovation challenge