Aim Statement: By December 2018, the turnaround time for 100% of the high volume automated Hepatitis testing at the Westmead laboratory will be <24 hours.

Background to problem worth solving: Hepatitis is a public health concern, infecting tens of thousands of NSW residents. Hepatitis B is vaccine preventable, and Hepatitis C is >95% curable. The lab tests take minutes to perform but performing turnaround time is measured in days. Infected patients from low compliance groups (e.g. intravenous drug users) are at risk of being lost to the system and not receiving treatment in this time.

Driver Diagram

Results:

Outcome measures
Eleven change ideas were trialled to improve the turnaround time for Hepatitis testing. Three initiatives delivered sustained, high impact outcomes and they are detailed above right, and charted below.

Importantly, changes consistantly improved turnaround time, with each successful change idea implemented building on those that went before it.

Process measures
- Hepatitis ordering errors decreased by 90%
- 10 core lab staff were upskilled in Hepatitis testing
- The 11 year old analyser was upgraded with a refurbished instrument improving reliability (cost $2,285/month)

Balancing measures
- Hepatitis ordering decision support algorithm delivered 83% reduction in add-on tests (re-work) for the lab
- Improved clinician literacy when ordering Hepatitis tests
- An additional pathology collection centre was opened at the LHD drug and alcohol clinic to facilitate increased testing of a population at high risk of Hepatitis infection.

Overall Outcome of Project:
The focus on improving Hepatitis testing turnaround time has delivered 12 months of continuous improvement, achieving the desired outcome of 100% of Hepatitis testing being completed within 24 hours. Clinical expectations are met and managed, and the management of infected patients is more effective because they remain connected to the service.

$ Cost saving
1 FTE Scientist position was not replaced as a result of the project, delivering recurrent savings of ~$100,000 per annum. The savings net of the costs incurred for the refurbished instrument are $72,580 per annum.

Plans to sustain change:
- The Hepatitis ordering decision support tool has been implemented into Powerchart.
- The management of the Serology instrument has been transferred to the core lab.
- Procedure development for performing Hepatitis testing allowing tested to take place as samples arrived in the lab, instead of in batches aligned with a day shift roster. This roster progressed to include weekend coverage, and that drove total turnaround time below the target 24 hours (saved 6 hours).

Will we eliminate Hepatitis in my lifetime?
This project supports the ambitious goal of the elimination of hepatitis from the community by 2028. PBS listed direct acting antiviral drugs, increased screening of pregnant women, and childhood vaccination rates above 95% are strategies employed to achieve this goal today. This strategy is supported by an efficient laboratory screening service, confirmatory testing, viral loads, and resistance testing. I’d like to acknowledge the expert laboratory teams that are working towards this goal, and whose success on this project is a small step towards eliminating Hepatitis B and C.