# Can the lean quality improvement methodology positively transform current care pathways for ophthalmology patients attending a day surgery unit?

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*It is suggested that quality improvement (QI) in healthcare should be a process rooted in making healthcare services more efficient, patient focused, convenient, timely, fair and safe (1). In 2010 'The Healthcare Quality Strategy for Scotland' promoted a similar philosophy and added that QI carries with it an open door, through which all healthcare staff can go if they wish to engage in making a positive difference to care delivery and services provided (2).*

## BACKGROUND

When ophthalmology consultants from the local community hospital attend the day surgery unit (DSU) at the acute hospital, it had been identified by them and the nursing staff, that using the HePMA programme can often be challenging and as a result of these challenges patient and work flow can be hindered when trying to discharge ophthalmology patients. HePMA is a electronic prescribing programme and it is suggested that if the HePMA programme is utilised appropriately, the outcome would be better communication for medicine administration across the service, in turn, enabling safer and improved continuity of care for patients, resulting in improved patient flow (3)

## THE AIM

To investigate if using the lean QI methodology could improve quality and efficiency of the discharge process for ophthalmology patients when they attend a DSU and ultimately improve patient and staff flow.

## METHODS

Team engagement and Gemba walks to process map was undertaken, to identify value and non-valued added (waste) processes in current practice.


Initial HePMA process mapping for discharge


8 Steps in Gemba Walk


7 Types of Waste
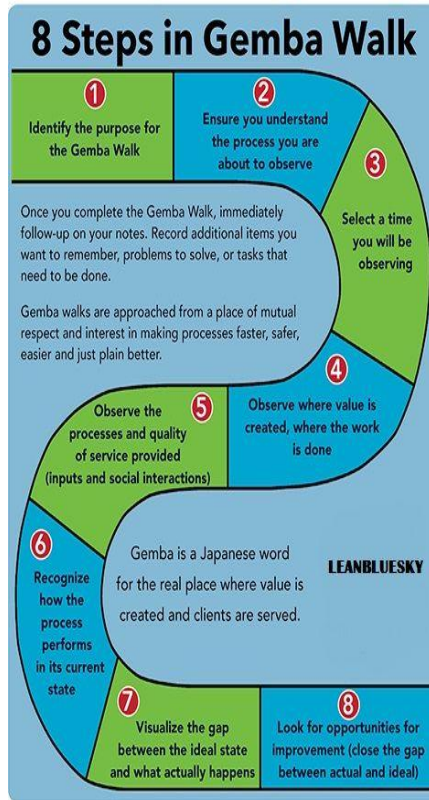
## RESULTS

The data has shown that initially, despite discharge medication requirements being prescribed on the HePMA programme when patients return to the ward after surgery patient flow and nursing staff work flow was hindered. Patients had to wait on pharmacy processing and dispensing of their discharge prescription and nursing staff had to coordinate discharge medication requirements via a pharmacy located off the DSU.

To reduce wastage in the process and engage in improving this practice the stocking of an accessible to take out (TTO) cupboard within the DSU with ophthalmology discharge medications was undertaken, which allowed nursing staff to dispense discharge medication efficiently within the ward.

| Timing | Pre intervention no eye drops in TTO cupboard and no HePMA use. | | | | No TTO stock in cupboard by HePMA used on day. | | Post TTO cupboard stocking and HePMA use. | | |
|---|---|---|---|---|---|---|---|---|---|
| | PT 1 | PT 2 | PT 1 | PT 2 | Pt 1 | PT 1 | PT 1 | PT 1 | PT 2 | PT 1 |
| | December | | January | | | February | | March | | |
| TTO requested via HePMA/ HePMA checked | 11:54 | 12:37 | 11:30 | 13:00 | 12:54 | 11:27 | 11:22 | 11:30 | 12:24 | 11:16 |
| Dispensed from pharmacy or TTO cupboard | 13:04 | 14:00 | 14:00 | 14:00 | 16:36 | 14:11 | 14:24 | 11:35 | 12:32 | 11:29 |
| Time taken minutes | 70 | 83 | 150 | 60 | 222 | 164 | 182 | 4 | 8 | 13 |
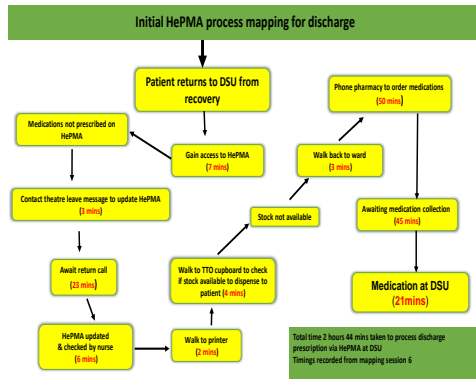
### Comparison of TTO process mapping Post & Pre intervention
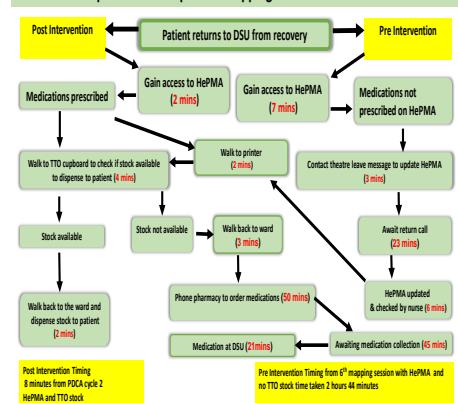


## References

1. Scoville, R., Little, K. *Comparing Lean and Quality Improvement*. IHI White paper. Institute for Healthcare Improvement, USA (2014).
2. Scottish Government. *The Healthcare Quality Strategy for NHS Scotland*. The Scottish Government, Edinburgh (2010).
3. Healthcare Improvement Scotland. *Implementing an Electronic Prescribing and Medicines Administration System: A Good Practice Guide:* Executive Summary. Edinburgh (2014).

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## Conclusion

By stocking a TTO cupboard and using HePMA on the DSU a significant improvement was made in patient and staff flow during patient discharge, from an average **2 hours 13 minutes** without a stocked TTO cupboard and HePMA, to an average **8 minutes** with a stocked TTO cupboard and HePMA.

As a result of this change in practice a new admission and discharge protocol is in place for ophthalmology patients attending the DSU and we continue to strive for improvements in practice to benefit our ophthalmology patients and our colleagues across site.