SUPPLY AND DEMAND
Reducing the Time to Complete the Oral Drug Administration Round

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1 INTRODUCTION

Drug prescribing and administration is one of the primary interventions for influencing patient health.[1] When interrupted once during drug administration, the risk of error increases by 12.7%. The risk is doubled if interrupted 4 times and tripled if interrupted 6 times.[2]

In February 2013, MMUH nursing staff spent on average 125 minutes undertaking the 08.00 oral drugs round, an received on average 12 interruptions per day during this round.   Lean methodology was employed to review the safety and timing of the drug administration round.

2 AIMS & OBJECTIVES

Review the drug administration round using Lean methodology to;
• Eliminate non-necessary steps
• Reduce the time taken to complete the round
• Reduce interruptions
• Provide a safer environment for drug administration
• Optimise multidisciplinary communication regarding drug supply for the drug round

3 METHODOLOGY

A surgical ward was designated the study ward. A 'process map' of the drug administration round was generated. Each step was analysed for the value added.   Areas for improvement were identified and rated in terms of impact and feasibility. The improvements introduced were;

• A 'Do Not Disturb' campaign to reduce interruptions (Fig. 1)
• Re-organisation of the drug trolley to reduce searching and retrieval time for drugs
• Checklist for preparing the drug trolley prior to rounds
• Use of a coloured flag to identify stock requirements or any other issues with drug charts (Fig. 2)
• Use of a standard layout for the drug storage room white board to improve communication (Fig. 2)

Interruption Reduction Campaign

Fig 1: Interruption Reduction Signage
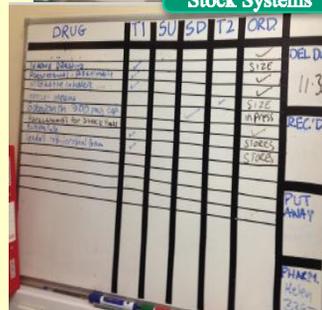

Structured Stock Systems

Fig 2: Coloured flags to identify stocking requirements (above) and standardised communication on the ward white board (below)

4 RESULTS

The project was rolled out in May 2013, with re-audits in September 2013, July 2014 and November 2014. This also incorporated the relocation of the ward from a multiple bedded room configuration to a entirely single bed configuration.

Fig 3: Drug round average timing and timing variation

63 minute profit for patient care (per 08.00 drug round per ward)

• The average time for completion of the 08.00 drug round decreased by 50% (63 minutes), exclusive of time saved on other drug rounds (Fig. 3).

• The time variation in drug round completion has fluctuated over the audit period, having decreased by 7 minutes per round in November 2014.
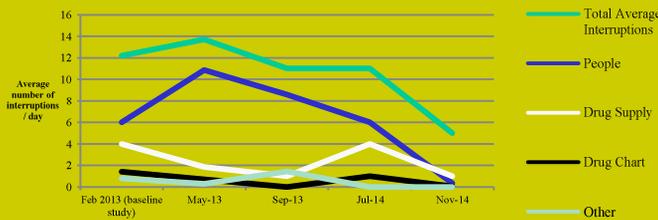

Fig 4: Average interruptions to the 08.00 drug round

Total interruptions have steadily decreased to an average of 5 interruptions to the morning drug round per day (Fig. 4).

5 CONCLUSION

Lean methodology was successfully employed to reduce the time taken to complete the oral drug administration round. This time saving releases nursing time for patient care.

Interruptions increased initially post project implementation but have steadily decreased since.

Ward Clinical Pharmacists and ward nursing staff indicated that the project has improved the drug supply process and communication between nursing and pharmacy on the ward.

The project is now being roll out on other wards across the MMUH campus.

REFERENCES:
1. Maxwell S, Walley T. Teaching safe and effective prescribing in UK medical schools: a core curriculum for tomorrow's doctors. *British Journal of Clinical Pharmacology* 2003; 55: 496-503
2. Institute for Safe Medication Practices, Medication Safety Alert,. 2013; 18 (2)