

Systems to Support Medication Reconciliation at TDHB

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Abstract

TDHB is implementing electronic systems that will support comprehensive medication reconciliation for all inpatients.

Medication Reconciliation is a set of processes that enforce a more rigorous approach to the transfer and maintenance of medication history and medication prescribing. There are currently great shortfalls in how the patient's medication list is maintained during the continuum of care, and the degree of decision support provided in real time. These shortfalls contribute to adverse medical consequences.

The TDHB Medication Reconciliation system will support medication reconciliation processes by:

- *Providing workflow to structure the completion of a comprehensive medication history upon admission.*
- *Providing workflow to track and communicate medication changes during the inpatient admission.*
- *Aiding communication of the discharge medication care plan to primary care providers via structured discharge summary information which will highlight medication changes.*
- *Aiding communication of the discharge medication care plan to the patient and primary care provider via Patient Yellow Cards and structured discharge summary information.*

The solution will support electronic prescribing and administration in the future.

1. Introduction

The implementation of a Medication Reconciliation system within TDHB aligns with the NZQIC SMM Programme for improving medication management within the inpatient setting.

“Each year an unacceptable number of New Zealanders die or are permanently disabled as a result of adverse drug events. Potential adverse drug events can occur throughout the health and disability sector at any time when medications are prescribed, dispensed or administered to a patient/consumer. People are most at risk from adverse drug events at any time when information about that person is transferred from one part of the health and disability sector to another or at any time information is passed within a primary or secondary health care setting.” [1]

The SMM Programmes objectives are to

- Reduce the number of adverse drug events in New Zealand
- Reduce the number of patients who are permanently disabled or die as a result of adverse drug events
- Reduce the costs associated with remedial treatment of patient injury caused by adverse drug events

The implementation of systems and process at Taranaki DHB will directly contribute to all three of the NZQIP SMM Programme's objectives.

2. Manual Medication Reconciliation currently at TDHB

Admission pharmacists' currently screen all admitted medical patients within 24 hours of presentation using paper based tools. The screen consists of a verification of the medication history via the GP, screen for any other unmet pharmaceutical needs, and a handover care plan.

Ward pharmacists perform a daily chart review and for a subset of patients provide a specific care plan, patient counselling, and medications advice cards.

Upon discharge only specific patients are provisioned with yellow cards which are created by hand. 9.3% of all patients had yellow cards under the manual system.

3. Medication Reconciliation System – Application Functionality

The TDHB Medication Reconciliation will provide the following functions which will facilitate medication reconciliation processes and thus ultimately contribute to the safer management of medications.

- Structured recording and verification of all inpatient's medications on admission, thus reducing errors due to inaccurate medication history.
- Allow hospital clinicians or pharmacists to record medication changes during the inpatient stay.
- Support the efficient production of a complete list of discharge medications within the discharge summary, complete the patient's medication care plan ("yellow card") and produce medication specific consumer patient information leaflets (CPILs), and the discharge prescription.
- A medication reconciliation summary for the primary care provider which will clearly highlight medication changes.
- Provide decision support capability and alerting including known drug – drug interactions, allergy status and dose range checking.
- Provide the ability to integrate with a district wide medication history repository that will be viewable by all clinical stakeholders with appropriate permissions.

The longer term strategy within TDHB is to electronically prescribe and administer medications as well. Therefore the initial medication reconciliation solution is expected to eventually scale to encompass such functionality in due course.

4. Medication Reconciliation System – Interaction with Automated Dispensing

TDHB has employed Pyxis Medstation cabinet technology for a number of years. The current pharmacy information system is used to maintain a medication profile for all inpatients which is uploaded to the Pyxis system of medication cabinets. To enable this, the paper medication chart is currently faxed to the hospital pharmacy whenever it is updated.

Going forward, the medication reconciliation solution will assume the role of maintaining the master patient medication profile which is exported to the Pyxis cabinets. The patient medication profile is entered and verified by a clinical pharmacist within the solution and then electronically transferred to the Pyxis system.

Every time the paper drug chart is updated, the electronic profile will be updated and verified by a clinical pharmacist and uploaded to Pyxis.

5. Current project status and anticipated progress

As at September 2009 an implementation planning study is underway.. The total implementation timeframe anticipates final delivery of the system by first quarter 2010. As well as the technological aspects of the implementation, there will be further work to ensure that the technology is utilised as best possible

6. Acknowledgments.

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7. References

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