Sustaining medication safety through restrictions on telephone orders

Martin Canning[1], Bonnie Tai[2], Andrew Munns[1]

1. Pharmacy Department, The Prince Charles Hospital, Queensland
2. Metro North Information Technology, Metro North Hospital and Health Service, Queensland

Background – Problem and Assessment

Incident review in 2011:

- An elderly patient experienced respiratory arrest after inadvertent administration of an overdose of intravenous (IV) midazolam prior to a minor procedure in a general ward.
- IV midazolam was also prescribed as a telephone order on the previous night for suspected delirium.
- No documentation of medical follow up post telephone order was found.

Baseline audit in 2011:

- ~ 1 in 3 patients had ≥ 1 telephone orders
- Junior medical officers prescribed just over 50% of telephone orders
- ~ two-third of telephone orders were prescribed outside usual business hours

Aim

To describe a sustainable medication safety initiative involving restrictions on telephone orders at a metropolitan, tertiary referral teaching hospital

Method – Intervention and Strategy for Change

2011:

- A multidisciplinary working group (medical, nursing and pharmacy) was formed.
- A list of restricted telephone order medications was compiled (Table 1).
- Medical officers must review patient before prescribing these medications / therapeutic agents.
  - Exceptions: Consultants and anaesthetic registrars can prescribe any medication by telephone order, providing the patient is known to them.
- Standardised process for prescribing and documenting telephone order was developed.
- Daily clinical pharmacy review to ensure patients were prescribed appropriate “as-required” and variable-dose medications, and thus reduce the need for telephone orders after-hours.

2012:

- Intensive awareness campaign was rolled out hospital wide.
- Education was given as a short, interactive workshop where medical and nursing staff had the opportunity to practise ordering and receiving telephone orders.

2013:

- Telephone order prescribing was incorporated into medical, nursing and pharmacy orientation.

Table 1: Restricted telephone order medications

- Narcotics
- Sedatives
- Anti-psychotics
- Anti-depressants
- Frusemide
- Initiation of therapeutic anticoagulation (IV & oral)
- Blood and blood products

Measurement for Improvement

- Pre- and post-intervention audit of all available medication charts in 2011 and 2012 assessing presence of telephone orders
- Yearly surveillance in 2016 and 2017 to assess sustainability and procedure compliance

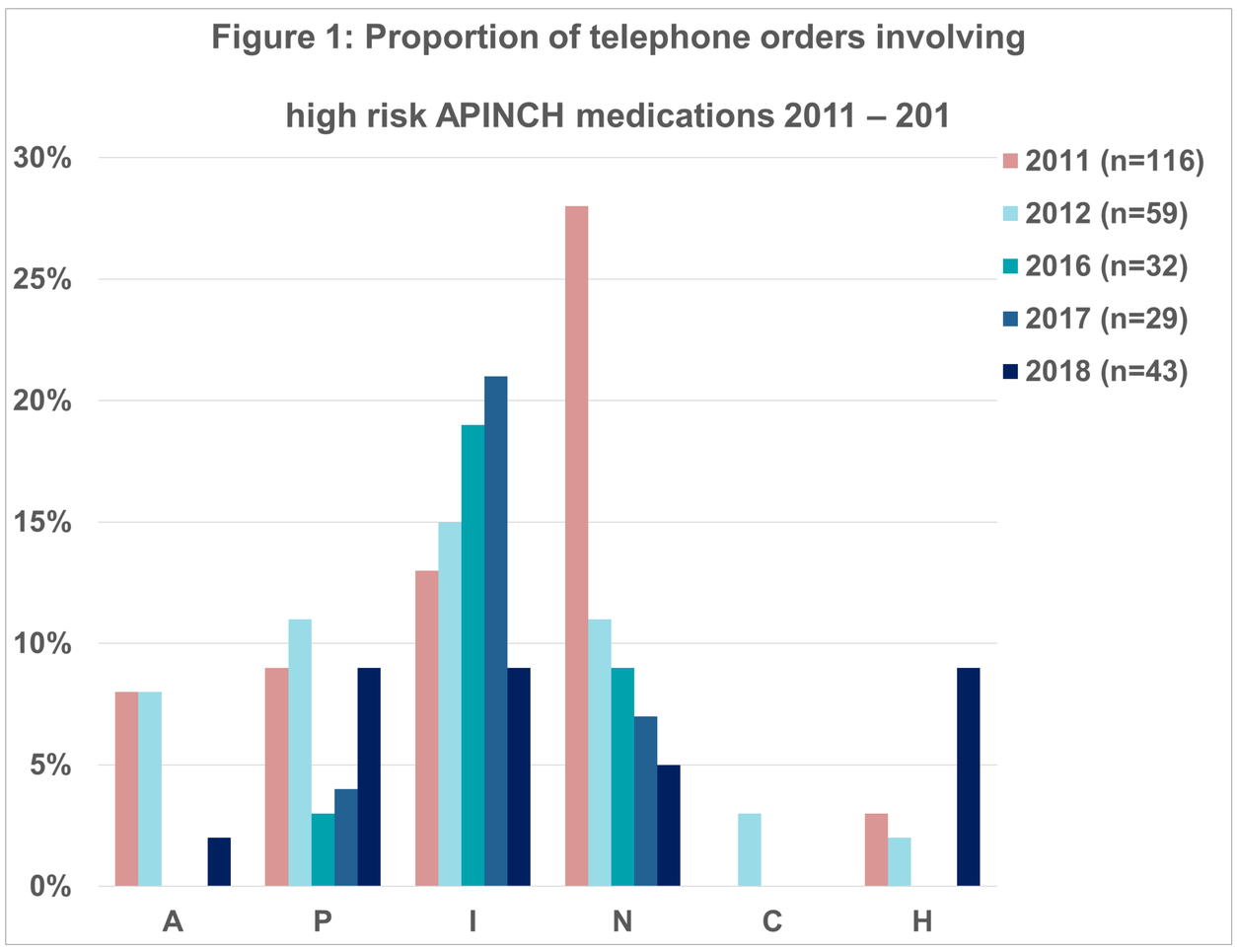
Results – Effects of Changes

- The average number of telephone orders per patient was reduced from 0.3 in 2011 to 0.17 in 2012. This reduction was maintained in 2016 – 2018 (Table 2).
- The proportion of telephone orders involving high risk APINCH medications was reduced from 53.4% in 2011 to 37.3% in 2012. This reduction was sustained at 25% – 35% in 2016 – 2018. (Figure 1)
- Narcotics and sedatives were accounted for the largest number of telephone orders in 2011 (28.4%, n = 33), which has dropped to only 2 of 43 telephone orders in 2018 (5%).
- Post-intervention audits showed compliance with telephone order restriction was consistently between 85% - 95% of all orders.

Table 2: Average number of telephone order (TO) per patients

Year	2011	2012	2016	2017	2018
No. of patients audited	380	343	302	333	412
No. of telephone orders audited	116	59	32	29	43
No. of orders per patient	0.3	0.17	0.11	0.09	0.1

Figure 1: Proportion of telephone orders involving high risk APINCH medications 2011 – 201



Conclusion – Lessons Learned

- Even though an aspect of care may seem to be infrequent or not commonly used such as telephone orders, risks associated with practice should be considered.
- A multimodal, multidisciplinary approach is essential to support sustainable practice change.
- Extensive consultation and senior leadership buy-in are critical to ensure implications for after-hours workflows and subsequently patient care are not adversely affected

Contact Us

Martin Canning – Safety & Quality / Drug Use Evaluation Pharmacist — Martin.Canning@health.qld.gov.au — @canningmartin
Bonnie Tai – Pharmacist Subject Matter Expert, Evaluation — Bonnie.Tai@health.qld.gov.au — @bonnie_w_tai
Andrew Munns – Assistant Director of Pharmacy — Andrew.Munns@health.qld.gov.au

Acknowledgements: Dr Helen Ward (TPCH Director of Patient Safety – retired), Michael Tien Yung Ngo (UQ QUM student 2011), Seamus McWhirter (TPCH Pharmacy intern 2012) and Cing Tong Woon (UQ QUM student 2018)

Queensland Government