

Canadian HealthcareNetwork.ca

Hospital pharmacist involvement in postsurgical patient care improves outcomes, saves money

Written by Lu-Ann Murdoch on September 24, 2013 for CanadianHealthcareNetwork.ca

Canadian study evaluated clinical, economic outcomes after clinical pharmacist services were added to two general surgical wards.

Pharmacist management of postsurgical patient drug therapy can improve clinical and patient outcomes and avoid healthcare costs, according to a recent Canadian study. The study evaluated the clinical and economic outcomes after clinical pharmacist services were added to two general surgical wards in a 950-bed Canadian adult tertiary care hospital.

In this prospective observational study, all clinical interventions to resolve drug therapy problems were documented and assessed for severity, value (importance), and the probability of preventing an adverse drug event (ADE). Cost avoidance for intervention recommendations accepted by prescribers were calculated according to additional days avoided in hospital (\$3,593/ADE) or by additional hospital costs related to an ADE that was avoided (\$7,215/ADE).

Prior to the study, pharmacists received training on best practices for medication management of surgical patients. During the study, clinical services were provided to postoperative patients on weekdays from 06:30 to 14:30. The pharmacists participated in patient care rounds with surgeons and nurses, obtained medication histories, conducted medication reconciliation, and counselled patients.

During the six-month study (201 days), pharmacists made 1,097 interventions, with a 98% acceptance rate by surgical staff. Half of the interventions were rated to be of significant severity (n=561, 51.1%) and of significant importance (n=559, 51.0%). One-quarter of the interventions had a 40% or greater probability of preventing an ADE (n=270, 24.6%).

The 1,097 interventions were broken down into the following categories of drug therapy problems: failure to receive a drug (23%); inappropriate route of administration (19%), untreated indication (13%), improper drug selection (9%), subtherapeutic dosage (9%), drug use without indication (8%), potentially excessive dose (8%), adverse drug reaction (2%), drug interaction (1%), drug allergy (1%), and other (8%).

Some of the clinical interventions made by surgical care pharmacists are summarized below:

- Patient had signs of sepsis (decreased blood pressure, increased white blood cell count, fever, tachycardia) and was not receiving an antibiotic. The pharmacist recommended starting a broad-spectrum intravenous antibiotic.
- Both dalteparin and warfarin were prescribed on discharge (patient had an INR in the therapeutic range). The pharmacist recommended discontinuation of dalteparin.
- Patient had increased pain after surgery. The pharmacist recommended adding regular doses of oral acetaminophen and ibuprofen.
- A medication prescribed at discharge was not covered by the patient's insurance plan. The pharmacist recommended a different medication from the same class that was covered.

Cost avoidance in this study was estimated to be \$0.68–1.36 million or \$617–1,239 per intervention. Pharmacist involvement avoided an additional 867 days in the hospital for surgical patients.

In a 2009–2010 national survey, only 62% of hospitals reported having a clinical pharmacy program in general surgery compared to rates of more than 80% in geriatric, transplant, and adult critical care. Therefore, clinical pharmacy services for surgical patients appear to be underdeveloped in many Canadian hospitals.

The authors conclude that this study provides evidence that clinical pharmacists can make significant and valuable contributions to the care of surgical patients in Canadian hospitals. Pharmacist involvement can improve surgical patient outcomes and avoid healthcare costs. Based on this study, clinical pharmacists practising on surgical wards have the potential to result in \$7 in savings for every \$1 invested.

Reference

1. Neville HL, Chevalier B, Daley C, et al. Clinical benefits and economic impact of post-surgical care provided by pharmacists in a Canadian hospital. *Int J Pharm Pract* 2013; Aug 18: doi: 10.1111/ijpp.12058 [Epub ahead of print].

Reprinted from Canadian Healthcarenetwork.ca with permission from the Rogers Healthcare Group <http://www.canadianhealthcarenetwork.ca/pharmacists/news/hospitalinstitutional/hospital-pharmacist-involvement-in-postsurgical-patient-care-improves-outcomes-saves-money-22699>