Medication Discrepancies and Drug-Related Problems in the Ambulatory Oncology Setting

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Rationale

- · Medication discrepancies and drug-related problems (DRPs) are an important concern in patients with cancer, as most chemotherapy agents have a narrow therapeutic index and may interact with multiple other medications.1-2
- · Medication errors and discrepancies place patients with cancer at a significant risk for experiencing adverse health outcomes.3-9
- · To date, there is little published data evaluating the impact of pharmacists' interventions on medication discrepancies and drug-related problems in the ambulatory oncology setting.¹⁰⁻¹²
- · The purpose of this study is to determine the impact of current pharmacy chart-checking and order reviewing processes on the numbers and types of medication discrepancies and drug-related problems identified and resolved in new ambulatory chemotherapy patients.
- · The data from this study will assist with determining the impact of medication reconciliation programs in the ambulatory oncology setting.

Objectives

Primary objective:

 To determine the number of medication discrepancies in new ambulatory chemotherapy patients, using the current chart-checking and medication reviewing processes.

Secondary objectives:

- · To determine the types of medication discrepancies identified and resolved · To determine the numbers and types of drug-related problems (DRPs)
- identified and resolved
- · To determine the cost associated with maintaining the current pharmacy processes.

Design & Methodology

· Prospective, open-label, multi-centre study

Inclusion Criteria:

- > Adult patients admitted to the ambulatory care services of the BC Cancer Agency in Abbotsford, Kelowna, Surrey, Vancouver, and Victoria, who are scheduled to receive chemotherapy for the first time, or who have a change in their chemotherapy treatment protocols.
- Exclusion Criteria:
- > Patients in acute distress, or those who are medically unstable at the time of assessment
- > Patients receiving continuation of an ongoing chemotherapy regimen
- > Patients receiving hormonal therapy only
- > Patients receiving chemotherapy as a part of another clinical trial
- Pediatric patients (defined as age < 18 years)</p>

Study Procedures:

- > The study was conducted from June 2010 to November 2010.
- > A daily list of new chemotherapy patients was identified by the designated pharmacists, using each centre's usual processes for chart checking.
- > Information resources used included the patient's Pharmacy Treatment Record, Health Assessment Form, PharmaNet profile, Cancer Agency's Information System (CAIS), physician's dictation, and the patient's paper chart.
- > Pharmacists used the available patient information to check for medication allergies, correct doses of chemotherapy drugs, required lab work, and all other relevant medication-related interventions, as applicable to both intravenous and oral chemotherapy drugs.
- > The numbers and types of medication discrepancies and drug-related problems and the assessment time were captured, using standard data collection forms

Results

Patient Characteristics

Total Number of Patients (N)	861
Age (Years)	
Mean	65
Range	23-91
Gender	
Male	327 (38%)
Female	534 (62%)

Numbers & Types of Medication Discrepancies



Numbers & Types of Drug-Related Problems



Discrepancy/DRP Severity Designation



Discrepancy Severity DRP Severity

Results continued

Cost Analysis for Pharmacy Resource Expenditure

Average Assessment Time Per Patient	26 Minutes
Average Hourly Wage of Pharmacist	\$49.14 / Hour
Total Cost for Entire Study Population	\$18,334

Conclusions

- Clinically important medication discrepancies and drug-related problems (DRPs) were identified and resolved in new adult ambulatory chemotherapy patients at the five centres of the BC Cancer Agency between June 2010 - November 2010.
- · Using current chart-checking/order reviewing processes:
- > 150 medication discrepancies were identified, of which 147 (98%) were resolved
- > 129 (86%) of discrepancies were unintentional, while 21 (14%) were undocumented intentional.
- > 494 drug-related problems (DRPs) were identified, of which 477 (97%) were resolved.
- > The most common DRPs included drug information/patient counseling interventions, missing labs, drug interactions, medication allergies, and incorrect doses.
- > On average, 26 minutes were spent per patient assessment, resulting in \$18,334 pharmacy resource expenditure for the entire study population.

Clinical Implications

- · Pharmacists' chemotherapy chart-checking/order reviewing processes play an important role in identifying and resolving clinically important medication discrepancies and drug-related problems (DRPs).
- · Currently, medication reconciliation is being implemented in selected ambulatory care clinics of the BC Cancer Agency.
- · The numbers and types of medication discrepancies and drug-related problems using medication reconciliation in addition to current chartchecking/order reviewing processes will be evaluated and compared to the baseline data presented here.
- The impact of medication reconciliation in new ambulatory care medical oncology patients and the added costs associated with the program will be further evaluated

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