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Medication Incidents that could have been Prevented at the Prescribing Stage: A Multi-Incident Analysis

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ISMP Canada

CMIRPS – Canadian Medication Incident Reporting and Prevention System | SCDPIM – Système canadien de déclaration et de prévention des incidents médicamenteux

INTRODUCTION

- The prescribing stage represents the patient's first contact within the medication-use process and is an important milestone in helping to guide patients to positive outcomes and better health.
- Prescribing related incidents in a community pharmacy could have come from various types of practice settings (i.e. any practice setting in which a personnel has prescribing rights). Therefore, this makes the various potential safe guards or recommendations derived from this multi-incident analysis applicable to a wide variety of health care practices.

OBJECTIVE(S)

- To identify and prevent the occurrence of prescribing errors through interventions and safe guards that come prior to the pharmacy
- To reduce the number of interceptions required in post-prescribing stages for advancing safe medication use.

METHOD(S)

Searched ISMP Canada Community Pharmacy Incident Reporting (CPhIR)[1] Database for medication incidents involving prescribing from January 1, 2010 to April 30, 2015

Search Criteria: included all levels of harm outcomes except "no error" (i.e. near misses) and the stage of incident must involve the prescribing stage

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Selected Incidents for final analysis

111 incidents were retrieved, but only 61 incidents met inclusion criteria and were included in this multi-incident analysis

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Analyzed and categorized incidents into two mains themes and further divided into subthemes

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Identified potential contributing factors

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Provided recommendations to fill in patient-safety gaps

RESULT(S)

Theme: Therapeutic Plan Error

Incorrect Dose

Example) *Physician wrote a prescription for Synthroid® 175 mcg instead of 150 mcg and the mistake was not picked up by the pharmacist while dispensing. Patient experienced symptoms of hyperthyroidism.*

Medication Discrepancy

Example) *A patient on both Eliquis© and ASA 81 mg was prescribed naproxen for 2 weeks. Patient had an incessant nose bleed that ended up requiring hospital treatment. The interaction wasn't relayed to doctor or staff of nursing home to monitor.*

Allergy

Example) *A patient with a documented amoxicillin allergy was accidently prescribed a penicillin. The patient experienced an anaphylactic reaction requiring treatment.*

Drug-Drug Interaction

Example) *A patient experienced adverse effects 3 days after starting a new antibiotic - sleepiness, feeling weak, uncoordinated, etc. I checked her profile and figured [out that] she is experiencing a drug-drug interaction between her Biaxin© and trazodone.*

Recommendations:

1. **Try to use standardized protocols**
2. **Make therapeutic resources readily accessible**
3. **Distribute medication information sheets** to patients addressing potential side effects
4. **High risk drugs should have additional barriers in place to avoid safety alerts being bypassed or overridden**[3]
5. **Adjust safety alert settings** so that only clinically relevant interactions are flagged to avoid alert fatigue of clinicians or pharmacy staff
6. **Keep track of the types of interactions that are being bypassed or overridden** in case new drug interaction findings arise[2]
7. **Make patient information fields mandatory in computerized prescribing systems**
8. **Educate staff members on how to perform a Best Possible Medication History**[4]
9. **Engage in a dialogue with the patient and/or the caregiver at prescribing and/or dispensing stage(s)** as a step to prevent potential harm[13]

Theme: Therapeutic Plan Execution Error

Incomplete Prescription

Example) *A physician wrote a prescription for verapamil 120 mg once daily without specifying the format (sustained-release or regular release). The patient received regular release for 10 days and was admitted to the hospital for a couple weeks. Patient was switched off afterwards.*

Illegible Writing

Example) *Patient was supposed to receive azathioprine but got amitriptyline by mistake. The writing on the original prescription was almost illegible, and could have passed for either medication. The specialist is hard to get a hold of, thus he/she was not contacted to clarify the medication.*

Recommendations:

- **Mandate input of all computerized prescription order field entries**[4]
- **Use templates or pre-printed orders forms**[14]
- **Educate administrative staff to have them performed independent double checks and confirm completeness of all prescription order fields**[15]
- **Type out prescriptions or implement Computerized Physician Order Entry or CPOE**[5] (Note: CPOE can reduce errors but may also introduce new errors[7])
- **Establish a process for another staff member of the patient's health care team to perform an independent double check to confirm writing legibility**[6]

Wrong Patient

Example) *Doctor prescribed metformin to a non-diabetic patient who shared the same name as a diabetic patient.*

Recommendations:

- **Have an automated system-based alert to notify pharmacy personnel (during order entry) of similarly named patients**[17]
- **Use two patient identifiers** (e.g. patient name, date of birth, address, etc.) at every stage of the medication-use process[18]

CONCLUSION(S)

- The prescribing stage represents a key step in the patient's initial encounter with the medication-use process. Both physicians and pharmacists can improve patient safety by developing system-based strategies to prevent medication incidents at this crucial stage of patient care.
- The action of incorporating changes into the workplace is a crucial step in improving patient safety, however, proper monitoring and ongoing assessment to analyze the effectiveness of the intervention(s) (i.e. continuous quality improvement) are also important.[19]
- It is also essential to have a quality assurance team that can regularly monitor and assess the impact of the intervention(s) and ensure that new errors that may have risen are addressed promptly.

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