

What Impact Does Pharmacist Led Medication Reconciliation Strategies Have on Reduction of Medication Errors in the Older Adult?

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Disclosure.

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Learner objective: To gain insight into the role of the
pharmacist in optimizing medication reconciliation
strategies and the potential impact on medication related
problems in community dwelling older adults.

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**MEDICATION RECONCILIATION
STRATEGIES TO REDUCE
MEDICATION ERRORS IN
COMMUNITY DWELLING OLDER
ADULTS: A SYSTEMATIC
REVIEW.**

Medication Reconciliation

- The process of comparing an individual's medication orders to all of the medications the individual has been taking. It is an integral part of safety for those older adults living in their homes in community settings.
- Key steps include:
 - a) Obtaining a complete and accurate list of the individual's current medications and reviewing with the individual all prescribed and non-prescribed medications*;
 - b) Screening for adverse drug interactions and if any are identified, reporting to the prescribing provider;
 - c) Identifying the primary or secondary medical diagnosis related to each prescribed medication;
 - d) Applying Beer's criteria* for inappropriate medication for those individuals 65 years of age and older;

Medication Reconciliation

- a) Presenting to the prescribing provider(s) a list of all medications that the patient is taking and a list of corresponding medical diagnoses;
- b) Verifying prescribed medications and related medical diagnoses with the prescribing provider(s); and providing to the individual or caretaker a current list of all the medications the individual is taking, including dose and frequency.*

Important concepts of medication reconciliation include:

- ✧ Medication procurement – how and where prescriptions are obtained and filled, how medications are paid for, whether or not medication doses are ever missed due to lack of funds.
- ✧ Medication knowledge – assessing the individual's knowledge of dose, route and frequency of medications, indication for medication use, special instructions related to medications, and side effects to monitor and report.

Medication Error

A preventable action that may precipitate inappropriate medication use or harm while the medication is in the control of the patient, health care professional, or consumer.

According to the report To Err is Human, (IOM , 2000) medication errors are identified as the most common type of error in health care. At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medication errors.

Globally 1:10 patients are affected by medication errors annually (Joint Commission International, 2013).

Medication errors are more prevalent in the Medicare population in which slightly more than half are aged 65-74 years, while the oldest members, 85 years and older, comprise more than ten percent (Gold, 2009).

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Prevalence

Older adults are at risk for medication errors due to many factors including but not limited to:

- multiple/chronic illnesses
- normal ageing changes
- multiple care providers
- poly-pharmacy
- multiple pharmacies

Systematic Review Inclusion Criteria

Participants

- **Community dwelling adults 65 yrs or older**
- **All races and ethnicities**

Exclusions

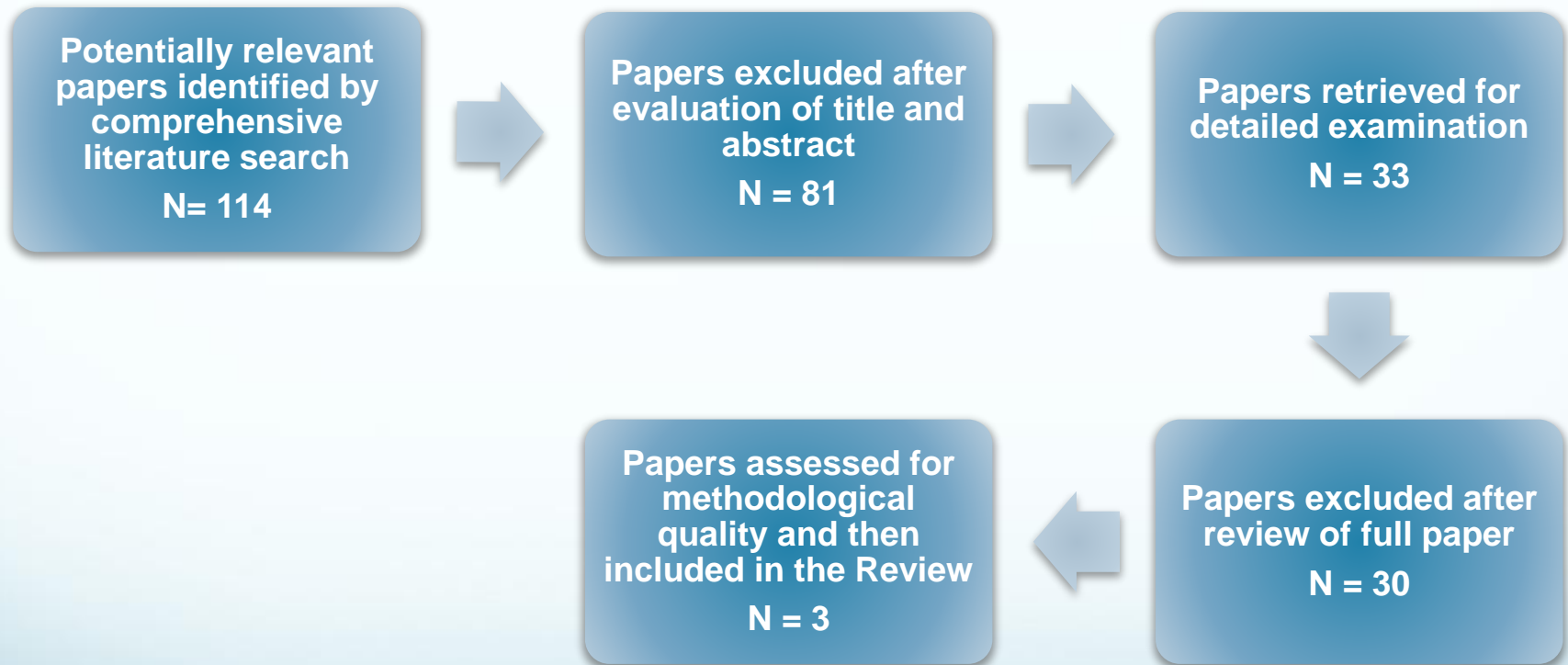
- **Older adults with dementia**
- **Older adults dependent on others for provision of care**

Inclusion Criteria - Outcome

Primary outcome measure studied was number of medication errors; included but not limited to:

- Errors related to prescribing**
- Errors related to labeling**
- Errors related to dispensing**
- Errors related to medication reconstitution**
- Errors related to medication administration**

Review Results



Results contd.

This Review yielded 3 studies:

- **2 Level one Randomized Controlled Trials (Sellors 2003 & Krska, 2001)**
- **1 Level three Prospective Randomized Comparative study (Elliot, 2012)**

Results contd'

- One of the studies introduces delivery of care and medication reconciliation in teams (Sellors, 2003).
- Two of the studies address the delivery of care and medication reconciliation in the patient's home (Elliot, 2012 & Krska, 2001)
- The way in which the pharmacist conducted the medication reconciliation varied across studies. Some of the techniques utilized by the pharmacist included the following:

RESULTS contd'

- Pharmacist conducted face-to-face medication reviews with patients in physician's office.
- Pharmacist provided physician with letter that summarized patients' medications, drug-related problems identified, and actions to resolve these problems.
- Pharmacist initiated follow up telephone calls to patients to monitor ongoing drug therapy.
- Pharmacist conducted home medicines review during patient home visit; obtaining comprehensive medication history and comprehensive medication review.

Results contd'

- Pharmacist developed pharmaceutical care plan which list the following:
 - a) all potential and actual pharmaceutical care issues
 - b) desired outputs to be achieved
 - c) actions planned to achieve these outputs
 - d) outcomes of any potential pharmaceutical care issues already resolved by the pharmacist.

One copy of the pharmaceutical care plan was left in the patient's home, another copy placed in the patient's medical records and the primary care provider input solicited*

Results contd'

- **All three studies support strategy of pharmacist-led medication reconciliation**
- **Positive impact noted on medication related problems/errors**
- **Positive outcomes re pharmacist / physician collaborative efforts**
- **Potential impact of multidisciplinary team collaboration**

Study Findings

Study	Intervention	Results
Elliott RA, Martinac G, Campbell S, Thorn J, Woodward MC. Pharmacists – led medication review to identify medication related problems in older people referred to an Aged Care Assessment team. <i>Drugs Aging</i> 2012; 29 (7): 593-605.	Method 1: A clinical pharmacist reviewed all participating patients' ACAT files to identify potential medication related problems (MRPs) not identified by the initial ACAT usual care. Patients then randomized into: either Method Group 2: General Practitioner initiated Home Medicines Review (GPHMR). A letter was sent to the general practitioner (GP) recommending a Home Medicines Review GPHMR or Method Group 3: ACAT clinical pharmacist initiated Home Medicines Review (APHMR). During the home visit the clinical pharmacist reviewed the ACAT file, obtained a comprehensive medication history, and conducted a comprehensive medication review.	21 medication related problems (MRPs) were identified via ACAT usual care. Method 1: Pharmacist review of ACAT files identified a further 164 potential MRPs. Method Group 3 (42.7%) of the medication related problems noted from method group 1 turned out not to be actual problems. In addition, The APHMR– method group 3`-- identified an additional 79 MRPs that were not identified from review of the ACAT file group method 1. Method Group 2: No information was offered.
Krska J, Cormarty JA, Arris F, Jamieson D, Hansford D, Duffus P et al. Pharmacist – led medication review in patients over 65: A randomized, control trial in primary care. <i>Age and Ageing</i> 2001; 30: 205 – 211.	Pharmacists reviewed the drug therapy of 332 patients using information from patient interviews in the patient's own homes. n=168 received a pharmaceutical care plan n= 164 received usual care	The effect of medication reconciliation by a pharmacist yielded statistically significant difference on the resolution of pharmaceutical care issues (p= 0.0001)
Sellors J Kaczorowski J, Sellors C, Dolovich L, Woodward C, Willan A et al. A randomized controlled trial of a pharmacist consultation program from family physicians and their elderly patients. <i>CMAJ</i> July 2003; 169(1): 17 – 22 .	Pharmacists reviewed the records of 889 individuals and conducted face-to-face interviews in the health care providers office with a letter to the primary care provider outlying recommendations.	After meeting with the pharmacist health care providers reported that they did intend to implement 76.6% of the pharmacists' recommendations. After 5 months the health care provider had succeeded in fully implementing 46.3% of these recommendations and partially implemented 9.3% of recommendations. No evidence offered in terms of differences between the intervention and control group.

Discussion

- **Medication reconciliation has shown to be a complex process that takes place across all health care settings.**
- **It is multifaceted and includes a multidisciplinary team whose primary objective is to facilitate safe and effective ways for older adults to consume medications.**
- **Most critical for community dwelling older adults due to: high incidence of poly-pharmacy, multiple providers, multiple pharmacies and normal ageing changes**

Discussion

- In addition team collaboration, among and between disciplines, may be an important concept with regard to medication review /reconciliation.
- Successful medication reconciliation should positively impact number of medication errors as well as the older adult's ability to age successfully in place.

Implications for practice

- **Clinicians support pharmacist led medication reconciliation specifically for older adults residing in community settings.**
- **This support is integral to the health of the older adult in terms of identifying and preventing medication errors.**
- **Pharmacist intervention can facilitate recommendations to primary care providers for appropriate medication adjustments**

Implications for Practice contd'

- Medication Reconciliation conducted in the patient home may be an important strategy to consider.
- Medication Reconciliation as a process may best be conducted in a team based approach
- Other concepts for consideration include:
 - Independent Redundancy*
 - Medication Procurement
 - Use of technology (.i.e. electronic medical record)

Implications for Research

- **Need for continued research to determine the effectiveness of of pharmacist-led medication reconciliation strategies on medication errors in community dwelling older adults.**
- **Need to develop research initiatives that focus on the effectiveness of a pharmacist led medication reconciliation team.**
- **Need for more evidence based information relating to interdisciplinary team functioning and its impact on medication errors in the older community dwelling adult.**

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