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TOOLS FOR ADVANCING PHARMACY PRACTICE

Trained student pharmacists' telephonic collection of patient medication information: Evaluation of a structured interview tool

Amanda R. Margolis, Beth A. Martin^{*}, David A. Mott

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ABSTRACT

Objective: To determine the feasibility and fidelity of student pharmacists collecting patient medication list information using a structured interview tool and the accuracy of documenting the information. The medication lists were used by a community pharmacist to provide a targeted medication therapy management (MTM) intervention.

Design: Descriptive analysis of patient medication lists collected with telephone interviews.

Participants: Ten trained student pharmacists collected the medication lists.

Intervention: Trained student pharmacists conducted audio-recorded telephone interviews with 80 English-speaking, community-dwelling older adults using a structured interview tool to collect and document medication lists.

Main Outcome Measures: Feasibility was measured using the number of completed interviews, the time student pharmacists took to collect the information, and pharmacist feedback. Fidelity to the interview tool was measured by assessing student pharmacists' adherence to asking all scripted questions and probes. Accuracy was measured by comparing the audio-recorded interviews to the medication list information documented in an electronic medical record.

Results: On average, it took student pharmacists 26.7 minutes to collect the medication lists. The community pharmacist said the medication lists were complete and that having the medication lists saved time and allowed him to focus on assessment, recommendations, and education during the targeted MTM session. Fidelity was high, with an overall proportion of asked scripted probes of 83.75% (95% confidence interval [CI], 80.62–86.88%). Accuracy was also high for both prescription (95.1%; 95% CI, 94.3–95.8%) and nonprescription (90.5%; 95% CI, 89.4–91.4%) medications.

Conclusion: Trained student pharmacists were able to use an interview tool to collect and document medication lists with a high degree of fidelity and accuracy. This study suggests that student pharmacists or trained technicians may be able to collect patient medication lists to facilitate MTM sessions in the community pharmacy setting. Evaluating the sustainability of using student pharmacists or trained technicians to collect medication lists is needed.

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^{*} **Correspondence:** Beth A. Martin, PhD, RPh, 777 Highland Ave., Madison, WI 53705-2222.

E-mail address: beth.martin@wisc.edu (B.A. Martin).

As the role of the community pharmacist continues to shift from a dispenser of medications to a provider of care services, streamlining some technical aspects of medication therapy management (MTM), such as gathering patient medication lists, is important to sustain a successful pharmacy MTM service.¹ To provide a comprehensive medication review during an MTM session, a pharmacist must have a complete, up-to-date, and accurate medication list, including over-the-counter (OTC) and herbal products available to review for drug-drug interactions and adverse effects.^{2–4} However, a comprehensive medication list that accurately portrays

Key Points**Background**

- Collecting medication list information can be a time-related barrier for pharmacists conducting MTM sessions.
- Literature supports pharmacy technician collection of medication list information in an institutional setting.

Findings

- Through training and using a scripted interview tool and documentation process, student pharmacists were able to collect medication lists from older adult patients.
- Medication list documentation by the student pharmacists was feasible with a high degree of fidelity to the structured interview tool and accuracy of documenting the collected information.
- Use of non-pharmacist personnel to collect medication lists may have the potential to increase MTM service provision in the community pharmacy setting by freeing up pharmacist time.

medications the patient is taking is not always available to the community pharmacist.⁵ Over-the-counter and herbal products are often not included in existing medication lists. In addition, pharmacy profiles might not reflect how the patient is actually taking the medication or might miss medications if multiple pharmacies are used.

Pharmacists excel at collecting medication lists and performing comprehensive medication reviews; however, it is time consuming and costly to have pharmacists collect the medication list.^{3,6,7} Collecting a comprehensive medication list takes an average of 21.9 minutes.⁸ This means during a 1-hour appointment, as much as one third of the time may be spent collecting medication lists. Although outpatient pharmacies often have medication lists, the lists frequently contain errors.⁵ One evaluation determined that only 25% of the outpatient pharmacy medication lists evaluated were completely accurate.⁵

Having the medication list collected and documented by non-pharmacist personnel, such as student pharmacists or trained technicians before the patient–pharmacist interaction, could save the pharmacist's time while generating accurate medication lists. In addition, allocating time for medication list collection separate from the MTM session may reduce patient burden associated with a potentially longer face-to-face MTM session. Studies describing student pharmacists and pharmacy technicians collecting medication lists have been conducted primarily within inpatient and institutional settings, involve face-to-face interactions with patients, often lack a comparator group,^{1,9–16} and are difficult to extrapolate to the community pharmacy setting.^{17–19} Therefore, a study is needed in the community setting using student pharmacists or trained pharmacy technicians to collect medication lists before an MTM session.

Assessing the quality and consistency of following a medication list collection protocol with accurate documentation has

not been formally studied, nor has this process been evaluated in the community pharmacy setting. Fidelity is the degree to which an individual follows a protocol as intended in implementation research.²⁰ It is measured through auditing of audio tapes of intervention delivery or through direct observation.²⁰ Evaluating the fidelity of student pharmacists or other trained pharmacy staff member's ability to follow a protocol for medication list collection could provide evidence to support the delegation of this task by pharmacists in the community pharmacy setting.

A small pilot study conducted by one of the authors demonstrated that trained student pharmacists can telephonically collect medication lists using a structured interview tool.¹⁰ The tool was expanded to include probes to facilitate the collection of comprehensive medication lists for a targeted MTM session. A telephonic (versus face-to-face) interview process was selected to minimize travel burden for the older adults and the barrier of an additional visit to the community pharmacy. The objective of this study was to determine the feasibility and fidelity of student pharmacists collecting patient medication information using the structured interview tool and the accuracy of documenting the information.

Methods

This study was conducted as part of a larger randomized controlled trial (RCT) evaluating the feasibility and impact of a community pharmacist–provided, targeted MTM session focused on medication use and falling among older adults.^{21,22} In the RCT, consented older adults were recruited from falls prevention workshops and were cluster randomized to an intervention group, which received a face-to-face targeted MTM session from a community pharmacist, or a control group, which received usual care (i.e. no study-based intervention).

The older adults were contacted to arrange a date and time to participate in a 60-minute preintervention telephone interview conducted by a trained student pharmacist. Male student pharmacists conducted the preintervention interview with older male adults based on feedback from the study's older adult advisory panel, suggesting that older male adults would not be able to hear a female student pharmacist as easily on the telephone.^{21,22} The interview collected health status information, the medication list, and information about falls history. All preintervention interviews were audiotaped. The intervention group received the MTM session after the preintervention interview. All follow-up interviews for the RCT were conducted by the same student pharmacist who completed the initial preintervention interview with the older adult, allowing for consistency and rapport. The institutional review board at the principal investigator's institution approved this study.

Older adult population

Enrollment criteria for the RCT study included adults age 65 years or older, the ability to speak English, having fallen in the past 12 months or having a fear of falling, completion of the falls prevention workshop, and capability to provide informed consent. Eighty community dwelling older adults were enrolled in the study. The average age of the subjects was 75.6 years (SD $\pm$ 8.3), and 79% were female; 33.6% of subjects self-reported “very good” or “excellent” health.

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