PSNet
PATIENT SAFETY NETWORK

Polypharmacy

May 1, 2013
Guglielmo JB. Polypharmacy. PSNet [internet]. 2013.
https://psnet.ahrq.gov/web-mm/polypharmacy

The Case

A 65-year-old man with schizophrenia receives his routine outpatient psychiatric care through an agency. His case manager visits him weekly regarding medication adherence, which includes biweekly visits to his clinic for administration of his risperidone depot injection. He receives all his oral medications dispensed in weekly blister packs from his local pharmacy; however, the risperidone is provided by a separate "specialty pharmacy" that dispenses all long-acting injectable antipsychotics for the agency.

At his usual visit to his local pharmacy to obtain his oral medications, his pharmacist dispensed not only the usual oral medications but also the risperidone depot injection kit. The patient accepted the risperidone without disclosing this fact to his caregiver or case manager. On return to home, he reconstituted the powdered medication and self-administered the risperidone into his gluteus. Two days later, when contacted with a reminder regarding his upcoming injection (at the clinic), he reported his self-administration of the risperidone. The pharmacist at his local pharmacy was contacted and verified that the risperidone had been dispensed directly to the patient, even though it had never been previously filled by this pharmacy. This was a near miss, in that the patient did not receive the duplicate injection. The local pharmacy was advised to not dispense the injectable medication to the patient in the future.

The Commentary

While duplicate medication administration was avoided and the patient reported no adverse effect from his self-administered risperidone, a different scenario could have resulted in patient harm. A number of lessons can be learned from this medication error, including those associated with optimal outpatient management of mental illness. However, the focus of this discussion centers upon errors associated with an incomplete medication profile and the risk associated with the use of multiple pharmacies.

Community pharmacies maintain patient medication records; the use of such records helps eliminate the administration of unnecessary drugs, avoids serious drug–drug interactions, and enhances medication safety. Medication reconciliation has been mandated by The Joint Commission and other agencies in an effort to ensure that patients have accurate, actionable, and up-to-date medication lists. In a perfect world,

the community pharmacist is in an optimal position to ensure the quality of this list.

But, how accurate is the community pharmacy medication profile? Although one recent evaluation determined that outpatient pharmacy medication lists were significantly more likely to be accurate compared with that compiled by primary care providers, they were still frequently flawed. In fact, the community pharmacy had a fully accurate list only 25% of the time (versus only 8% with primary care providers).(1) In an evaluation of patients using primary care providers and community pharmacies outside a university health care system (i.e., providers with no access to the hospital's electronic medical record [EMR]), patients with prescribers outside the university health care system had a greater number of medication discrepancies than patients exclusively with health care system prescribers.(2) This demonstrates that the already low degree of accuracy of a physicians' medication lists is further compromised if primary care providers do not have access to a hospital EMR.

Although community pharmacies offer an improved, albeit still often inaccurate, medication list, what is the likelihood this list will be accurate in patients who use *multiple* pharmacies? One study found that 67% of patients obtained medications from one pharmacy, 29% from two, and 4% from three pharmacies.(1) The use of more than one community pharmacy can only reduce the likelihood that the medication list will be accurate. An additional issue is the fact that some expensive drugs (like the depot injections of risperidone) are provided via a specialty pharmacy, as was the case in this patient. Specialty pharmacies are intended to oversee medications with special handling, storage, and distribution requirements.

In most instances, medications managed by specialty pharmacies are associated with high cost or with special requirements for handling. Other reasons for using a specialty pharmacy include: using a medication to treat a rare disease, special requirements for assessment of response, unique drug administration training, monitoring of adverse effects, or FDA-mandated Risk Evaluation and Mitigation Strategies (REMS) programs.(3) The reason the patient received the risperidone from the specialty pharmacy centered on the intramuscular depot route of administration. Because the risperidone was provided by the specialty pharmacy and all other medications were from the local pharmacy, the medication list was incomplete and inaccurate. The lack of a complete accurate medication list and the use of multiple pharmacies resulted in the described medication error.

To avoid these types of errors, patients should, whenever possible, utilize one pharmacy for all their medication needs. When multiple pharmacies are employed, patients should preferentially use those in whom the medication profile is shared throughout the system. Many chain community pharmacy networks utilize such integrated systems. In addition, upon receipt of a filled prescription, the patient should request consultation with the pharmacist and review not only the specifics of the filled prescription but also the currency and accuracy of the entire active medication list. Similarly, health care providers should advocate that patients use a primary pharmacy, pharmacist consultation, and collaborative clarification of the current medication list.

Take-Home Points

- The community pharmacy is the most likely site for a complete, accurate medication list; however, this list is fully accurate only 25% of the time.

- Using multiple pharmacies (unless it involves a chain with an integrated medication list) is likely to further reduce the likelihood that a medication list will be accurate.
- The use of specialty pharmacies results in the inevitable use of multiple pharmacies in the provision of medications.
- An inaccurate community pharmacy medication list and using multiple pharmacies are sources for medication error.
- Patients should preferentially use a single pharmacy (or a pharmacy chain that maintains an integrated medication profile), request pharmacist consultation, and collaboratively ensure the accuracy of the medication list upon receipt of prescribed medications.

B. Joseph Guglielmo, PharmD Dean, School of Pharmacy Professor of Clinical Pharmacy University of California, San Francisco

References

1. Balon J, Thomas SA. Comparison of hospital admission medication lists with primary care physician and outpatient pharmacy lists. J Nurs Scholarsh. 2011;43:292-300. [go to PubMed]

2. Johnson CM, Marcy TR, Harrison DL, Young RE, Stevens EL, Shadid J. Medication reconciliation in a community pharmacy setting. J Am Pharm Assoc (2003). 2010;50:523-526. [go to PubMed]

3. EMD Serono Specialty Digest, 8th Edition. 2012. [Available at]

This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report. View AHRQ Disclaimers