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Commentary

Assessing the effect of providing a pharmacist with patient diagnosis on electronic prescription orders: A pilot study

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Abstract

Background: As a result of the US Omnibus Reconciliation Act of 1990 (OBRA '90), pharmacists have the obligation to ensure that prescription orders are appropriate and are not likely to cause adverse events. However, patient diagnosis information is not a requirement for a legal prescription order in any state in the US.
Objective: To compare a pharmacist's interventions before and after patient diagnosis is added by prescribers to their electronic prescription orders.
Methods: This prospective, pre–post study was conducted during two consecutive 4-week periods in a community health center pharmacy. During the first data collection period, the clinical pharmacist prospectively evaluated e-prescriptions using a standard DUR protocol. All problematic prescriptions were documented using a medication intervention form. During the second data collection period, providers included the patient's diagnosis on each e-prescription and the same clinical pharmacist again evaluated prescribed therapy and documented interventions.
Results: Pharmacist intervention rates on e-prescription orders were significantly lower following addition of the patient diagnosis information to the e-prescription order (3.9% pre- vs. 1.0% post-, $P < 0.001$).
Conclusions: While preliminary, the results of this pilot suggest that the addition of patient diagnosis to the e-prescription order can reduce confusion and uncertainty on the part of a DUR pharmacist, thereby decreasing the overall number of interventions and the subsequent number of contacts with prescribers.

Key words: e-prescription; Pharmacist; Information exchange; Intervention

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Background

In 1990, the drug utilization review (DUR) provisions of the US Omnibus Budget Reconciliation Act (OBRA '90) dramatically expanded pharmacists' legal responsibilities by requiring that pharmacists evaluate physicians' prescription orders prior to dispensing to ensure that prescribed medications are appropriate, medically necessary and are not likely to result in adverse events.

Although the expected outputs and outcomes of pharmacists' DUR activities have continued to expand, the information inputs available to pharmacists to support these responsibilities have not kept pace. In most ambulatory practice settings, the only information that pharmacists routinely receive from prescribers is that which is required for a legal prescription order. While some pharmacists attempt to supplement this information by various means (e.g., by asking the patient to supply information or by calling the prescriber to ask for clarification), they typically have limited time and opportunity to do so, and the information they obtain is often incomplete and/or of questionable accuracy.

In 2000, Warholak and Rupp evaluated the impact of patient information on pharmacists' ability to identify problems with prescribed medication therapy.[1] They found that pharmacists in this simulation were better able to identify drug therapy problems when they had access to more patient information than is typically provided on a prescription order. Gains in the quality of pharmacists' DUR activities were particularly pronounced when they were provided with the patient's diagnosis. Moreover, pharmacists' ability to use additional patient information improved with experience at doing so. The importance of providing pharmacists with access to additional patient information when reviewing electronic prescriptions (e-prescriptions or e-Rxs) was further reinforced in the results of a federally funded study published in 2008.[2]

In testimony before US Congress on March 27, 2001, Institute for Safe Medication Practices President, Michael Cohen, stated that in order to ensure for appropriate drug utilization review by pharmacists, "a current written diagnosis or identified need and relevant diagnostic data must support medication orders."[3] Also in 2001, the American Pharmacists Association affirmed a policy resolution which stated in part, "APhA supports the inclusion of the diagnosis or indication for use for which the medication is ordered on or with the transmission of the prescription order by use of standard diagnosis codes or within the directions for use." This policy reinforced and refined one that had been passed in 1993 that stated, "APhA supports the right of pharmacists, in all practice environments, to have access to patient-specific information necessary to achieve optimal therapeutic outcomes."

Objectives

The purpose of this study was to compare the incidence and types of potential drug therapy problems identified prior to and after providing the pharmacist with patient diagnosis information. This study also aimed to assess the impact of patient's diagnosis on the incidence of pharmacist-identified drug therapy problems that require prescriber contact.

Methods

This pilot study was conducted in El Rio Community Health Center's Pascua Yaqui Clinic in Tucson, Arizona. El Rio is a federally funded, non-profit community health center serving approximately 75,000 patients from 16 clinics in the Tucson area. Services include Primary Medical Care (family medicine, internal medicine, and pediatrics), OB/GYN, Optometry, Pharmacy, Behavioral Health, HIV/AIDS and Primary Dental Care. Electronic prescribing was implemented in 2009 for physicians, nurse practitioners and pharmacists with prescribing authority.

The study was performed in two, successive 4-week phases. In phase one, a PGY1 clinical pharmacy resident (NP) reviewed conventional e-prescription orders that did not contain patient diagnosis using a standard DUR process to evaluate prescribed medication therapy.[4] During the standard DUR process, the pharmacist performed comprehensive review of each patient's medication and health history to assess that each medication was appropriate, medically necessary, and not likely to result in adverse events. When a potential prescribing problem was identified, the pharmacist used a standardized Medication Therapy Intervention (MTI) form to document interventions with prescribers to correct the problem.[5] For each intervention, the pharmacist documented six elements: (1) the medication(s) involved, (2) the nature of the prescribing-related problem that necessitated