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RESEARCH NOTES

Description of drug therapy problem resolution in a statewide care management program

Chelsea Phillips Renfro, Stefanie P. Ferreri, Neil Williams, Cole Clark, Trista Pfeiffenberger*

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ABSTRACT

Objective: To describe drug therapy problem (DTP) resolution as part of a statewide, team-based care management program.

Methods: This was a retrospective, observational study of DTPs documented between March 1 and August 31, 2015. Data were retrieved from a Web-based platform 5 months after the observation period. DTPs were placed into groups based on the credentials of the person who documented the DTP. Next, they were identified as being documented in a transitional or nontransitional care setting. DTPs were further classified into 1 of 3 categories: medication adherence, discrepancy, or optimization. Lastly, DTP resolution was assessed. Results were analyzed using descriptive statistics.

Results: During the 6-month study period, 135,100 DTPs were documented, with 99% (n = 133,847) being documented by social work care managers, nurse care managers, and pharmacy staff personnel. Pharmacy staff personnel documented the majority of DTPs (51.5%), and the majority of DTPs (55%) were identified in the transitional care setting. Nurse care managers resolved more discrepancy DTPs (59.3%), whereas pharmacy staff personnel resolved more optimization DTPs (47.2%). Social work care managers resolved more medication adherence DTPs (68.6%).

Conclusions: Pharmacy staff personnel primarily identified and resolved opportunities to optimize medication use, whereas nurse care managers primarily identified and resolved medication discrepancies. Social work care managers primarily identified and resolved problems related to medication adherence. When each member of the interdisciplinary care team functioned at the top of their license, all types of DTPs were effectively identified and resolved.

Approximately 1 in 4 adults in the United States has had 2 or more chronic medical conditions diagnosed.[1] The management of multiple health conditions can be challenging for many patients, as treatment often includes the use of multiple medications. With the increased number of medications prescribed, there is a need for medication management services to identify and resolve drug therapy problems (DTPs).[2] Research suggests that DTP-related morbidity and mortality account for $177 billion, with more than 1.5 million avoidable DTPs occurring each year in the United States.[3,4] One approach to reducing the expenditures related to DTPs is to conduct medication management for patients with chronic medical conditions. Medication management requires medications to be assessed for appropriateness, effectiveness, and safety given the patient's medical conditions, medications being taken, and the patient's ability to take as prescribed.[2-11]

To add value to patient care and achieve optimal outcomes from drug therapy, medication management should be considered an interdisciplinary activity that requires multiple health professionals to provide medication-related care to the patient over time. All the steps in the medication management process of care are important, but without follow up, the

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* **Correspondence:** Trista Pfeiffenberger, PharmD, MS, Community Care of North Carolina, 2300 Rexwoods Dr, Raleigh, NC 27607.

E-mail addresses: tpfeiffenberger@n3cn.org (T. Pfeiffenberger), stefanie_ferreri@unc.edu (S.P. Ferreri).

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patient care team does not know the actual outcomes resulting from the interventions made. Follow-up on identified DTPs should occur in a time frame that is appropriate for the medical conditions being monitored, the drug therapy being taken, and the specific patient.[3,9-12]

Community Care of North Carolina (CCNC) is a statewide primary care case management program whereby Medicaid and dually eligible Medicare–Medicaid patients with chronic medical conditions receive complex care management or population health services from an interdisciplinary care team that works with the patient-centered medical home.[13] Complex care management is a set of interventions and components that address the health care of a population to promote cost-effective, quality care. To meet the complex needs of high-risk patients effectively and efficiently and to provide optimal benefit, CCNC uses a team approach to their care management program.[14] The CCNC interdisciplinary care team consists of social work and nurse care managers, pharmacy technicians, and pharmacists who collaborate with the patient's primary care provider to provide patient care.[13]

Complex care management is defined as programs in which interdisciplinary teams closely coordinate with primary care teams to take care of patients with multiple chronic conditions. A key component of complex care management includes performing a comprehensive health assessment to identify care management goals and problems affecting the ability to reach goals. Drug therapy problems are among those identified by the care team and, if resolved, will improve care.[14] Medication management is one part of this comprehensive assessment in which all care team members participate. Social work and nurse care managers, pharmacy technicians, and pharmacists can identify and resolve DTPs within their scope of practice; however, many DTPs require input from the patient's primary care provider or a prescriber for resolution to occur.[15]

Previous studies have assessed the identification and resolution of DTPs identified by pharmacists.[6,7,12,15-19] In one independent community pharmacy in Iowa, 886 DTPs were identified over the course of 2 years. The DTPs, and their frequency, were divided into 7 categories: inappropriate adherence (25.9%), additional therapy needed (22.0%), wrong drug (13.2%), unnecessary drug therapy (12.9%), adverse drug reaction (11.1%), dose too low (9.7%), and dose too high (5.3%).[6] An academic family medicine outpatient clinic analyzed DTPs identified by pharmacists during transitional care and identified 124 DTPs during the span of 1 year. The most common DTPs and their frequency were nonadherence (18%), untreated medical condition (15%), and no therapeutic monitoring (13%).[7]

Nurses also identified DTPs during medication reconciliation[12,20]; however, previous studies have not assessed identification and resolution of DTPs by social workers as part of a medication management program. The current study is unique because, to our knowledge, it is the first to describe DTPs based on setting and staff credentials in an interdisciplinary care management program.

Objective

The objective in this study was to describe DTP resolution as part of a statewide primary care case management program.

Methods

Study design

This was a retrospective, observational study of DTPs documented from March 1 to August 31, 2015.

Setting

DTPs were documented by pharmacists, nurse care managers, or social workers in a transitional care or chronic (nontransitional) care setting. A transitional care setting was defined as occurring within 30 days of discharge from a hospital, rehabilitation facility, or nursing home. Chronic or nontransitional care settings were defined as ambulatory care, community, or other outpatient practices. Pharmacists, nurse care managers, and social work care managers practice in the hospital, ambulatory care, community, or other outpatient practices.

Data collection

Care team members used a Web-based platform to perform medication management activities. The platform enabled users to collect and compare medication lists from a variety of sources (e.g., prescription fill history, hospital discharge orders, patient interview) and document and track the status of DTPs over time. The platform allows care plans or notes to be shared with other members of the team. The care team members also have the ability to request specific tasks, such as follow-up on DTPs, of other members of the care team through documentation in this platform. This platform does not use any alert mechanisms to prompt care team members when a DTP is present.

Within the platform, DTPs can be classified into 3 different categories: medication adherence issues, medication discrepancies, and opportunities to optimize medication use. DTPs classified as medication adherence issues typically include various barriers to the patient regularly taking chronic medications, whether those barriers are related to patients themselves, lack of appropriate care supports, lack of resources, or system issues (e.g., unresolved prior authorization). The medication discrepancy category includes DTPs related to differences in frequency, dose, and duration of medications when comparing multiple medication lists. The medication optimization classification included the 8 categories of DTPs identified by Hepler et al. These categories include untreated indications, improper drug selection, subtherapeutic dosage, failure to receive drugs, overdosage, adverse drug reactions, drug interactions, and drug use without indication.[11]

Data analysis

Data were retrieved from the Web-based medication management platform 5 months after the end of the study period. All patient identifiers were removed from DTP data before analysis. Data contained credentials of the care team member who documented the DTP, the setting in which the DTP was documented, the DTP category, and the DTP response status. DTPs were placed into 1 of 3 groups based on the credentials of the team member who documented the DTP. The team members included social work care manager, nurse care