Pharmacy Practice

The Development and Implementation of a Medication Assessment Clinic

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INTRODUCTION

Patients with numerous medical problems, and who are taking multiple medications, are at an increased risk for development of potential or actual drug related problems. The greater the number of different medications prescribed, the greater the risk for hospital admission.[1-3] Many drug-related problems are preventable.[4-6] Comprehensive medication assessment and pharmaceutical care, in both generalized and specialized ambulatory settings, have demonstrated that improved medication management can prevent readmission,[7] improve clinical outcomes,[8] and reduce hospital resource utilization and costs.[7-12] We describe a novel service, a Medication Assessment Clinic. This is an innovative and efficient method of identifying and resolving drug-related issues and improving continuity of care in an ambulatory setting to reduce morbidity and health resource utilization.

Program Description

The Medication Assessment Clinic is a referral based ambulatory clinic where a pharmacist and physician review, assess, and make recommendations regarding a patient's drug therapy regimen. The Clinic operates one-half day per week in the hospital outpatient department. The goals of the service are to optimize the patient's medication regimen, improve the management of medications at home, and improve continuity of care. It is anticipated that achieving these goals will lead to improved patient health, a high level of patient satisfaction, and more efficient use of health care resources.

Patients are referred upon hospital discharge or from within the community by a hospital or community physician. Referrals are mainly for the following issues: a potential drug induced adverse reaction; a desire to reduce the number of medications a patient is taking; management when common therapeutic options have been exhausted; and assistance to improve adherence to medications. Patients are assessed by both the pharmacist and physician. The pharmacist focuses on therapy issues including medications taken (prescription, over-the-counter, and alternative medicines), responses to medications, side effects, allergies, and compliance. The physician focuses on diagnosis and therapy related issues including physical exam and more details about specific medical problems. While one clinician is seeing the patient, if possible, the other clinician is gathering additional information that the patient was unable to provide from alternate sources such as the hospital computer, community pharmacy, or community care providers. This utilizes the resources of the hospital and community while making the assessment efficient for the patient. The two clinicians confer and develop recommendations which are discussed with the patient. The effort of the clinical team provides the patient with the expertise of 2 experienced clinicians, each approaching drug related issues from different skill strengths.

Written documentation is created, summarizing the patient's history and recommendations (with justification) regarding the identified or resolved drug-related problems. It is provided, with consent, to all of the patient's relevant health care providers including their family physician and community pharmacist to improve continuity of care. The summary is generally 3 to 5 pages in length and includes references. The referring physician is responsible for implementing the recommendations unless urgent intervention is needed or the referring physician indicates that recommendations should be implemented at the Clinic. Verbal discussions with the referring physician and other health care providers usually occur to facilitate implementation of various therapeutic plans for the patient. Follow-up visits or telephone calls are done to monitor the response to recommendations. The frequency of follow-up depends on the type

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of monitoring required. The patient is monitored by the Clinic in concert with various community caregivers until community caregivers can fully manage the patient's drug-related care. Although the Clinic can not meet all of the long-term, drug-related needs for a patient as this is a time-limited consultation process intervention, the Clinic often begins the process of pharmaceutical care and facilitates the ongoing provision of pharmaceutical care for that patient.

Program Evaluation

The program has to be justified as one that could add value to patient care. Therefore, strategies to measure Clinic outcomes are under development. The feasibility of determining the effect of the service on following outcomes is currently being explored: (e.g., patient health, continuity of care, patient satisfaction, referrer satisfaction, hospital admissions, emergency visits, and changes in medication costs). A patient satisfaction questionnaire has been developed and plans for testing its reliability and validity are underway. Relevant patient demographics and Clinic outputs are being collected such as the number and type of medical problems associated with each patient and the number and type of drug related issues identified.

Results of Clinic Assessments

After 5 months of operation, the Clinic assessed 10 patients at 44 Clinic visits and telephone follow-up conversations. Eight patients were referred by community family physicians, and 2 by hospital based specialists.

These patients took a mean of 10.6 medications (median=9; range = 2-26) and had experienced a mean of 6.0 active medical problems (median=6; range=2-11). After the initial visit, a mean of 6.2 recommendations were made per patient (median=5; range 2-13). The following types of recommendation were made: discontinuing a drug (10); suggesting the addition of a drug (9); change in therapy (4); dose increase (7); dose decrease (14); methods to improve adherence (13); and suggestions to deal with an adverse drug reaction (5).

Written documentation notes were sent to 28 health care providers. Documentation was provided to: family practitioners (10); specialists (4); community pharmacist (10); home care nurses (1); public health nurses (1); long-term care facilities (1); and mental health counselors (1).

Barriers Encountered

During the initial implementation of the Clinic a number of barriers were identified and dealt with. Hospital and area community physicians were concerned that the Clinic would be expensive and so provincial health care funding currently allocated to them would be diverted to the hospital and Clinic physician. There was also a concern that patients would not be directed back to their practices and that they would be retained as Clinic patients. As well, there was concern that patients would be referred by other health care professionals or could "self-refer" by passing the primary care physician and disrupting continuity of care.

These obstacles were resolved through meetings with various physician groups. The following points were emphasized: 1) the pharmacist is funded through the pharmacy's budget (pharmacy's goal is to support innovative practice); 2) the Clinic physician's time and, therefore, provincial reimbursement were being diverted from that physician's other clinical activities thereby creating a cost-neutral situation; 3) no changes in therapy would be made by the Clinic unless the referring physician directed that changes be made at the Clinic. Generally, recommendations would be forwarded to the referring physician to implement at their discretion; and 4) the service would be accessible by physician referral only although other health care professionals would be encouraged to identify patients.

Another barrier identified was the challenge of integrating Clinic referrals into existing systems of care to increase referrals. The service provided is not a typical, specialized referral service. Traditionally, the usual providers of pharmaceutical care (pharmacists within the hospital department) work via a non-referral based system. As well, the outcomes of this type of service are unfamiliar to physicians and its name suggests a service many feel they are already providing. To enhance referrals and improve understanding of the service, more presentations and discussions with various allied health care professional, administrative, and physician groups are being done and an interim report describing the service in detail is forthcoming.

Another significant barrier identified was the time required to manage a patient. It has taken from 4 to 10 hours to assess and follow-up one patient. This includes time needed for preparation, interviewing, data gathering from other sources, assessment, and communication. Reducing the time is a challenge. However, since its inception, the time required in the Clinic has been reduced by approximately 20% as Clinic operations became more familiar.

In conclusion, a challenge facing pharmacists and physicians is to provide pharmaceutical care to all patients. The Medication Assessment Clinic is an innovative program that initiates or complements the process of pharmaceutical care and facilitates the ongoing provision of pharmaceutical care for ambulatory patients. It does this by assessing the patient, providing recommendations, and ensuring that continuity of pharmaceutical care is organized for the patient between the hospital and com-

munity settings. The Clinic can provide comprehensive, expert, and efficient care because it operates in an ambulatory setting but has the resources and expertise of the hospital at its disposal. As in-hospital care becomes restricted to managing acute problems and length of stay is reduced, hospital pharmacists face an increasingly difficult challenge to provide comprehensive care to patients the hospital takes responsibility for. The Medication Assessment Clinic is a service that meets this challenge by fostering pharmaceutical care and enhancing continuity of care across the full spectrum of health care providers.

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