PHARMACY PRACTICE

Documentation of Pharmaceutical Care

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INTRODUCTION

Pharmaceutical Care (PC) has become a practice ideal for pharmacy. PC involves the process through which a pharmacist cooperates with a patient and other health professionals in designing, implementing, and monitoring a therapeutic plan to produce specific outcomes for the patient.[1] The role of the clinical pharmacist is to identify, resolve and prevent patient-specific, drug-related problems.[1,2] While many pharmacy departments would like to offer comprehensive PC to all patients, the practical aspects of implementation into daily practice are still evolving.

Royal Columbian Hospital (RCH) is a 560-bed tertiary care hospital in New Westminster, B.C. The hospital has a medical internship program, however, there is no medical or surgical residency program. Pharmacists with a Pharm.D. degree provide clinical services to the ICU, CCU, and Emergency, while pharmacists with Baccalaureate degrees and a hospital pharmacy residency are responsible for clinical services in the other areas of the hospital (medicine, pediatrics, cardiology step-down unit, cardiac surgery, neurology, and surgery). Comprehensive ward-based clinical services are provided by the pharmacists five days per week with some limited weekend coverage.

The Coronary Care Unit (CCU) at RCH is a 10 bed unit. During the past five years, the clinical pharmacist in the CCU has become a valued part of the health care team, responsible for monitoring and advising on each patients' drug therapy. The pharmacist in the CCU at RCH is cross-appointed with the University of British Columbia with responsibilities for teaching therapeutics to the undergraduate pharmacy students, the cardiology section of the Pharm.D. program and organizing the Pharm.D. seminars. Each year, the hospital pharmacy residents have a four-week cardiology rotation and six to eight Pharm. D. students do a one-month CCU clerkship under the perceptorship of the CCU's clinical pharmacist.

Prior to the initiation of the current project, the CCU's clinical pharmacist was already providing many of the components of PC including interacting with patients and physicians to identify, and develop patient-specific therapeutic plans. It was felt that the quality of patient care could be further enhanced by documenting the therapeutic plan in each patient's chart. Furthermore, it was felt that developing a structured documentation method for PC would assist in standardizing the quality of teaching of PC. This paper describes how documentation of Pharmaceutical Care by the pharmacist in the patient's chart was implemented in the CCU and integrated into the clerkship objectives for Pharm.D. students and residents.

METHODS

A one-month implementation and pilot project was begun to determine the mechanics and feasibility of documenting PC in each patient's chart. The project was divided into two phases - planning and implementation. A timetable was devised to allow both phases to be completed within a one-month period.

Phase I - Planning (one week)

The first step in planning involved an assessment of current clinical activities carried out in the CCU to determine the modifications required in order to provide PC. An important aspect of this process was to delineate the responsibilities of the pharmacist in this practice setting. To provide PC in the CCU, we defined the responsibilities of the clinical pharmacist as:

1. Obtain a full medication history and allergy assessment (within 24 hours of the patient's admission to CCU);
2. Review the medical record daily;

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3. Participate in bedside rounds with the medical intern/ cardiologist daily to determine if the patients needs were being met and to discuss potential therapeutic problems. This includes interviewing the patient to identify the patient's concerns, symptoms and any possible relationship with his/ her drug therapy;
4. Establish a list of drug-related problems/issues and recommendations daily (therapeutic plan);
5. Discuss patients, problem lists, goals of therapy, and recommendations with the preceptor (for Pharm.D. students and residents);
6. Document the above (1-4) in the medical record using a standardized note format including modifications to the therapeutic plan if the therapeutic goals are not being met (Appendix A); and
7. Maintain patient monitoring forms on the daily progress of each patient consisting of items 2-5 above.

Since most aspects of Pharmaceutical Care were already provided in the CCU, the missing element - documentation of the pharmacists recommendations in the medical record - was the primary focus of this exercise. During this phase, an outline for the Clinical Pharmacist's Note was developed.

Phase II - Implementation (three weeks)

The implementation phase had three objectives: a) to develop a standardized Clinical Pharmacist's Note format which was brief, easily read, and informative; b) to practice writing Clinical Pharmacist's Notes and make revisions to the format as required; and c) to determine the time required to write the note. Patients were monitored using existing RCH patient monitoring forms and sample Clinical Pharmacist's Notes were written on each patient daily. Clinical Pharmacist's Notes were not included in the medical record during this phase. Sample notes were reviewed with the CCU Pharmacist. The entire proposal was then submitted, along with selected examples of Clinical Pharmacist's Notes, to the Department of Cardiology for their endorsement. Endorsement by the Department of Cardiology was not required by the hospital, however, this helped to ensure a smooth implementation once the Clinical Pharmacist's Note was documented in the medical record. Guidelines were then prepared on the provision of PC for inclusion in the rotation objectives for Pharm.D. students and residents.

RESULTS

Documentation

The Clinical Pharmacist's Note was developed with the goal to provide a structured, yet flexible tool to enhance patient care. The needs of the patient would dictate the length and the complexity. Ideally, the note was kept to less than two pages whenever possible. While PC is based upon a thorough review of systems, we found that in documenting pharmaceutical care activities, it was necessary to include only information pertinent to the therapeutic issue being discussed to avoid redundancy and unnecessary length.

Several styles of Clinical Pharmacist's Notes were tried during the practice phase. The format finally selected as the Clinical Pharmacist's Note model used a modified SOAP format. (Appendix A) This SOAP structure was selected because the format was familiar to most health professionals and was easily adapted to meet the objectives for documenting PC activities. A standardized format was desirable as the Pharm.D. students and pharmacy residents rotated on a regular basis and few have experience in documenting in the health record.

Although the Clinical Pharmacist's Notes were not included in the medical record during the practice phase, a number of observations were made indicating their potential value. The requirement for the pharmacist to take medication histories and to perform allergy assessments on each patient initiated a definite patient-pharmacist relationship. The patient became aware of the pharmacist's involvement in his or her care. Direct contact with the patient on a daily basis allowed the pharmacist to assess the patient's needs and therefore more accurately identify and resolve the patient's drug-related problems. In addition, the pharmacist obtained more complete and accurate medication histories and allergy assessments then the other health professionals.

When entered in the medical record, the Clinical Pharmacist's Note would provide a permanent record of the pharmacist's recommendations, ensuring that the rationale behind therapeutic recommendations was understood by all health care professionals involved in the care of the patient.

Time Requirements

Initially, two pharmacists (one Pharm.D. student and one pharmacy resident) were required to provide PC including documentation in the CCU. By the end of the third week, as experience was gained in providing PC, and writing the Clinical Pharmacist's Notes required less time, a single

pharmacist was able to provide PC, with documentation in the patients chart, to each CCU patient.

Endorsement

The principles of PC, and its documentation in the medical record, were endorsed wholeheartedly by the Department of Cardiology.

Integration into Rotation Objectives

Documentation of PC has been integrated into the Pharm.D. student and pharmacy resident cardiology clerkship objectives. Guidelines have been developed so that future students and residents will be able to document the provision of PC in a structured and consistent manner.(Appendix A) Appendix B contains an example of a Clinical Pharmacist's Note.

DISCUSSION

Clinical pharmacy services have been under development for approximately 20 years, evolving to the stage where Clinical Pharmacists attend rounds, recommend changes to drug therapy and provide drug information. Traditionally, the input of the Clinical Pharmacist has been verbal with no written documentation in the patient's medical record.

At RCH, the pharmacist was already providing most components of PC to the patients admitted to the CCU. The final step in the implementation of PC in the CCU was to make documentation of the therapeutic plan in the chart part of the pharmacist's activities in providing PC. The advantages of documentation in the medical record were to enhance the professional image of the pharmacist by demonstrating a willingness to take responsibility for their contributions to patient care and to avoid miscommunication of the pharmacist's recommendations. A standardized and structured method of documentation was required so that continuity of care could be maintained by the rotating Pharm.D. students and pharmacy residents. A structured format would also allow the cardiologists, medical interns and nurses to easily recognize the Clinical Pharmacist's Note.

Another advantage in documenting the provision of PC was that the Pharm.D. students and pharmacy residents had a definite focus as to their responsibilities as a Clinical Pharmacist. These pharmacy trainees often had difficulty differentiating their role and identify from that of the physicians. The structured process of identifying, resolving, and documenting drug-related problems has been invaluable in demonstrating the pharmacist's unique role in patient care. Although pharmacy residents and Pharm.D. students were not expected to have the same level of knowledge and clinical experience, the preceptor was available to ensure that each patient had all of their drug-related problems identified and appropriate therapeutic plans were developed.

The process of documenting PC activities in the patients medical record was facilitated by the strong relationship between the cardiologists and the CCU Clinical Pharmacist. The implementation of PC in the CCU at RCH has enhanced the awareness of clinical pharmacy services to the patients, the physicians and other health professionals. It has provided a strong focus for rotating pharmacy residents and Pharm.D. students as to the role of the clinical pharmacist in the CCU. Studies are now needed to evaluate the impact of the provision of PC on patient outcomes.

REFERENCES

1. Strand ML, Cipolle J, Morley PC, et al. Levels of pharmaceutical care: A needs-based approach. *Am J Hosp Pharm* 1991;48:547-50.
2. Strand LM, Morley PC, Cipolle RJ, et al. Drug-related problems: Their structure and function. *DICP Ann Pharmacother* 1990;24:1093-7.

APPENDIX A

Guidelines for Clinical Pharmacist's Notes

A "Clinical Pharmacist's Note" will be written daily (Monday to Friday) on every patient in the CCU (exceptions are patients admitted for angioplasty who will only be in for one day and "off-service" patients). The note will use a revised "SOAP" structure. The purpose of the note is to identify and make recommendations for resolving patient-specific drug-related problems (DRP). Notes should be brief, and should not include information which is readily available, i.e., routine lab tests, unless absolutely necessary.

Subjective findings will include complaints voiced by the patient or reported by the nurses (i.e., chest pain, shortness of breath, nausea, vomiting, etc.). This section should only require one or two lines.

Objective findings will include a thorough medication history and allergy assessment (to be taken by the pharmacist, not copied from the physician's or nursing notes), a list of current medications and the start date of therapy, and a pharmacokinetic assessment including creatinine clearance calculation and evaluation of other potential abnormalities in the absorption, distribution, metabolism and elimination of medications. Serum drug levels will also be included in the Objective section, as well as any laboratory data pertinent to the monitoring of the efficacy and toxicity of the patient's drug therapy (i.e., BP, HR, K+, QRS interval, etc.). The medication history, allergy and kinetic assessment will only be included in the admission note. Subsequent progress notes should also include a listing of the PRN medications received by the patient in the preceding 24 hours. It is useful to use headings within the Objective section such as "Current medications", "PRN's in last 24 hours", and "Lab/ Vitals".

Assessment/**P**lan has been combined into one section to make the note easier to read. The A/P section should be entitled "Drug-Related Problems/Issues", with the DRPs presented in descending order of importance. A short phrase describes the DRP and a few sentences to outline the suggested solution to the problem. A DRP can involve a disease state where drug therapy is required (i.e., unstable angina, post-MI), a side effect of drug therapy (i.e., nausea, GI bleed), or a physiological state that requires modification of drug therapy (i.e., elevated creatinine, low sodium). For a more detailed description of DRP, refer to the article by Strand et al.[2]

The **A/P** section is more difficult to write as it describes **recommendations** or **suggestions** that should be made to drug therapy. (These are good words to use in the note). The note must be professional and diplomatic. Recommendations made and implemented during morning rounds should be included in the Clinical Pharmacist's Note. Although difficult to document a recommendation after the fact, it is important for the pharmacist to receive credit for his or her suggestions. "As discussed with intern on rounds" is an effective phrase to use in notes written after recommendation has been accepted.

The content of the note should be reviewed with the preceptor prior to being written into the patient's chart. The note should be signed in the usual way (name, degree) and be followed by "as discussed with (preceptor's name)."

APPENDIX B

Example of a Clinical Pharmacist's Note

Mrs. O is a 65-year old patient who was admitted to RCH early this AM with a chief complaint of chest heaviness unrelieved by nitroglycerin. She is 5'4" and 71 kg. Patient was seen on morning round by the CCU team and the following note was written.

1530h, January 17, 1993. **Clinical Pharmacist's Note**
S:-patient reports headache and flushing which have eased somewhat over the past few hours
-no complaints of urinary frequency/urgency
-four episodes of chest pain since admission (last one at 0830h)
-patient also complains of nausea, which began this AM
-Patient is confused about her medication and their purpose

O:Temp 36, HR 60, BP 134/70, PTT pending, Serum Creatinine: 96, Clcr (calculated) 60 mL/min, cholesterol 7.2.

APPENDIX B: ***Continued***

-Urinalysis (from foley catheter): >100 WBC and RBC, and bacteria per HPF. Awaiting C&S.
Current medications:
ASA 325mg daily po
Docusate 100mg BID po
Diltiazem SR 90mg BID po
Heparin infusion, 1100 units/h I.V.
Prn's past 24h
Nitroglycerin spray 0.4mg x 4 overnight
Dimenhydrinate 50mg I.V. at 0930h
Medication History:(as per patient and her community pharmacist, Westminster West End Pharmacy, 555-5555):
Diltiazem 60mg QID. Last fill Nov. 21/93 (360 tabs)
Nitrong-SR® 2.6mg TID. Last fill Nov. 21/93 (270 tabs)
Amoxicillin 250mg TID x 2 weeks. Filled Dec. 10/93.
Nitroglycerin spray prn.
Moduret®. 1 tablet daily. Last fill Nov. 21/93 (90 tabs)
OTC Medications:
acetaminophen 325mg q6h prn (takes 4-6 tabs weekly)

Drug Related Problems:

1. Unstable angina - Has had four episodes of pain since admission, patient is currently receiving ASA and IV nitroglycerin. Heparin has been started as suggested on AM rounds. PTT pending.

2. Possible urinary tract infection - Patient may have a UTI (cloudy urine with >100 WBC's), however she denies dysuria and feels that she is able to empty her bladder. The foley catheter has been removed this AM which may be sufficient to resolve bacteruria. As discussed with Dr. Black, will withhold antibiotic therapy unless patient becomes symptomatic and urine remains cloudy.

3. Patient Compliance - In discussion with Mrs. O., she expresses frustration and confusion about her medications. (She must remember to take medications on at least five occasions each day for which she sets her alarm clock so that she can take her medications at exactly the right time.) We should consider simplifying her regimen by using long-acting preparations whenever possible and removing unnecessary medications. For example, transdermal nitroglycerin patch rather than Nitrong SR®). Will discuss options for improving compliance with Mrs. O when her condition stabilizes and a long-term treatment plan is developed.

4. Elevated cholesterol - In view of this patient's documented CAD, and elevated cholesterol, should consider lipid lowering therapy. May benefit from a dietary consult and follow-up of cholesterol six-eight weeks after discharge.

5. Nausea - Patient had nausea starting at approximately 0900H. She had moderate relief from dimenhydrinate. She continues to feel mildly nauseated. Although nausea may be a manifestation of her ischemia, potential drug related causes include:
Nitroglycerin: incidence very rare
Diltiazem: incidence of 1.1%, however was receiving prior to admission
ASA: incidence common; new medication started this AM
Heparin: rare and was started after nausea began
The most likely drug-related of her nausea would be ASA. To minimize GI side effects, recommend changing to enteric coated ASA.

6. Indication for Moduret® - Patient has been receiving Moduret for many years, presumably for hypertension. BP currently within normal range (although now receiving IV nitro). Given her confusion re: medications, the antihypertensive effects of diltiazem, and possible adverse effects of thiazides on serum cholesterol, would recommend that Moduret® not be restarted.

This note is then signed.