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Pharmaceutical Care: Information Paper

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Pharmaceutical Care: Information Paper

PREAMBLE

Pharmaceutical care has been discussed in a number of official publications of the Canadian Society of Hospital Pharmacists. This information paper provides a general review of pharmaceutical care as of 2004. Previous documents deal with specific aspects of pharmaceutical care/pharmacy practice and remain valuable references. This document was approved under the title of Information Paper on Pharmaceutical Care; the title was fine-tuned in 2009.

1. INTRODUCTION

Over the past decade or so, the profession of pharmacy has shifted its focus from drugs to patients. This patient-focused model of practice is termed "pharmaceutical care" and was defined by Hepler and Strand as "the responsible provision of drug therapy for achieving definite outcomes that improve a patient's quality of life."[1]

The need for pharmaceutical care (PC) arose from the appreciation that many patients were not receiving the full benefit of their drug therapy or were experiencing adverse effects as a result of this therapy.[2] In a health care model without PC, the responsibility for these problems appears to lie with the prescriber alone. PC identifies the pharmacist as the member of the health care team most responsible for optimal drug selection and avoidance of medication adverse effects.[2] All members of the health care team should work collaboratively for positive patient outcomes. The pharmacist possesses a unique combination of knowledge and skill that allows for a focus on drug-related problem identification and potential resolution strategies.

There are several essential elements to providing PC.[1] Firstly, the pharmacist develops a trusting, collaborative relationship with the patient or their advocate to determine their drug-related needs and how the pharmacist can best meet those needs. A direct relationship between the patient (or delegate/advocate) and the pharmacist is an essential component of PC[3,4] and distinguishes PC from other pharmacy services. Secondly, the pharmacist identifies, resolves or prevents the patient's drug-related problems. A drug-related problem (DRP) is defined as "any physical or psychological sign or symptom which is undesirable to the patient and which is in some way related to drug therapy."[5]

There are eight categories of potential DRPs that a patient may experience:

1) The patient requires drug therapy which they are not currently receiving.
2) The patient has a medical condition for which they are taking the wrong drug or drug formulation.
3) The patient has a medical condition in which they are taking too little of the correct drug.
4) The patient has a medical condition in which they are taking too much of the correct drug.
5) The patient has a medical condition which is the result of an adverse drug reaction.
6) The patient has a medical condition as a result of a drug-drug, drug-food or drug-laboratory interaction.
7) The patient has a medical problem as a result of not taking the medication.
8) The patient has a medical problem as a result of taking a medication for which there is no indication.

Once a DRP has been identified, the pharmacist designs, implements and monitors a therapeutic plan for the patient to ensure resolution of the problem. This is a systematic process involving a review of available options and establishing a monitoring plan with specific and measurable endpoints.

The final essential element in the provision of PC is that the pharmacist accepts responsibility for the patient's drug therapy in a covenant with the patient himself. Taking this responsibility, and assuming the role of patient advocate, optimizes the patient's benefits from therapy and helps to prevent drug-

related morbidity and mortality.[6] PC focuses on the welfare of the patient by identifying desired outcomes of therapy as well as working to minimize adverse effects and drug misadventures.[1,5]

2. HOW DOES PHARMACEUTICAL CARE DIFFER FROM WHAT WE WERE DOING BEFORE?

Before the introduction of PC and its philosophy of patient care, pharmacists focused on providing "clinical" pharmacy activities as a means to optimise patients' drug therapy. Clinical pharmacy activities involved focused services provided to a specific group of patients, or a targeted approach to monitoring patients with the goal of optimising drug therapy. Functions included obtaining a patient's medication history, patient counselling, pharmacokinetic monitoring and patient pharmacotherapy monitoring (PPM). PPM is defined as "all those activities involved in the pharmacist's efforts to optimise a patient's drug regimen".[7] Furthermore, clinical activities were often provided selectively, i.e., not every patient was monitored nor every intervention implemented.

Although it would seem that PPM, or any of these clinical pharmacy activities, would assist in optimising drug therapy for an individual patient, providing these clinical activities does not necessarily ensure that the patient's desired outcomes are met. In PPM and patient counselling the main elements of PC that are not emphasized are the patient's participation and the pharmacist's accountability for the effects of the drug therapy.

Patient counselling may be a valuable clinical pharmacy activity to ensure compliance, but it may not result in achieving the patient's expected or desired outcome. In the past, the pharmacist would take responsibility for discussing the therapeutic effects, directions for use and common side effects of medications. The pharmacist did not necessarily take responsibility for following up on the treatment effects after therapy was initiated. With PC, follow-up with the patient, to ensure that the desired therapeutic effects are achieved without undue side effects, is representative of accepting responsibility for the patient's drug therapy. Therefore, the pharmacist's responsibility does not end with patient counselling.

From a time management perspective, providing only select clinical pharmacy activities enables the pharmacist to act for a larger patient population. However, providing these activities without patient input and without recognizing the pharmacist's accountability to the patient does not ensure that the patient's desired outcomes will be achieved.

3. LITERATURE EVIDENCE FOR PHARMACEUTICAL CARE

As a profession, pharmacy has accepted and embraced the philosophy of PC. Yet it is important to assess the impact of a practice change in terms of measurable outcomes. In an attempt to assess the evidence regarding the benefits of PC, a literature search was conducted in PubMed and International Pharmaceutical Abstracts (IPA) using the key words "pharmaceutical care". The search was limited to "English" language and "Human" subjects and "review articles" from January 1, 1990 to January 30, 2003. A complete analysis of all the articles retrieved by this search is beyond the scope of this information paper, however, articles appearing to examine the evidence supporting PC, as determined by abstract appraisal, were retrieved and reviewed. The bibliographies of these articles were also screened for additional citations.

While reviewing the professional literature to evaluate the evidence to support PC, it quickly became apparent that the term "pharmaceutical care," as defined by Hepler and Strand,[1] appeared to be used loosely; many of the retrieved articles were more precisely discussing clinical pharmacy activities. Kennie and colleagues also identified this

problem and stated that it was often difficult to clearly determine if PC was actually being provided in the research study.[8] Additionally, they identified several other deficiencies in the literature which claimed to evaluate PC and they made several recommendations for addressing these deficiencies.[8] The limitations make an examination of the evidence to support PC very difficult. Limited Canadian data suggests that the application of the PC model, including incorporation of a patient-pharmacist relationship and Pharmacotherapeutic option review, was associated with an increased number of drug-related problems being resolved in comparison with the provision of targeted clinical pharmacy services.[9] The data did not report pharmacoeconomic or patient outcome benefits, yet the findings suggest that while fewer patients can be seen in a given amount of pharmacist's time, this shortcoming is offset by increased problem resolution.[9]

Despite the absence of studies comparing the provision of PC in its entirety to the practice of clinical pharmacy, there does appear to be literature that supports the effectiveness of patient-centred pharmacy services, as will be discussed within this paper. Whether or not such services are truly reflective of comprehensive PC must be considered as one interprets the evidence.

There have been many studies evaluating the effectiveness of pharmacists' interventions in a variety of settings with differing methodology and outcome measures. Recent literature reviews have demonstrated the value of pharmacists' interventions in hospital settings, community pharmacies, specialty clinics (e.g., coagulation, hypertension, lipid clinics), family medicine and primary care clinics.[10-15] Positive clinical outcomes, such as improvement in disease control, enhanced compliance, improved prescribing and reduced complications have been reported.[11,14] However, the significance and ability to generalize these studies has been questioned due to small sample sizes, suboptimal design (e.g., lack of a control group) and the use of surrogate outcomes. As experience with this type of professional research has expanded, more rigorous studies (IMPROVE, SCRIP) have been conducted with larger sample sizes, multiple sites and evaluation of clinical, economic and humanistic outcomes.[16,17] Results from these studies have demonstrated and more definitively confirmed the positive value of pharmacists' interventions.

There have been several papers published since 1990 that have examined the pharmacoeconomic impact of pharmacy services; although these have assessed clinical pharmacy services rather than PC specifically.[4,13,14,18,19] A review by Plumridge and Wojnar-Horton was designed to evaluate clinical services and PC separately.[4] The authors determined that none of the PC studies fulfilled the pharmacoeconomic selection criteria being used. They concluded that, although evidence exists for clinical pharmacy activities having a positive economic benefit, there is a paucity of data confirming the pharmacoeconomic benefits of PC.

4. SUPPORT FOR PHARMACEUTICAL CARE IN CANADA

Since the philosophy of PC was first adopted, the implementation of this practice change has been a stepped process, including the creation of a vision, the provision of resources including time, manpower and tools, and the development of required skills.

4.1 Vision and Mission

The purpose of an organization is reflected in its mission statement. The mission statement should be embraced by employees and govern the overall purpose of their activities. Therefore, if PC is to be a practice philosophy, it must be reflected in a pharmacy department's mission statement. National surveys of hospital pharmacies in 1994 and 1995/96 identified that 62% and 67%, respectively, of pharmacy departments had incorporated the PC

philosophy into departmental mission statements.[20,21]

The philosophy of our profession is not determined solely by hospital pharmacy services. Provincial and national organizations also indicate important professional directions. The National Association of Pharmacy Regulatory Authorities (NAPRA) has model standards of practice for Canadian pharmacists.[22] The first standard states that "the pharmacist, using unique knowledge and skills to meet a patient's drug related needs, practises patient-focused care in partnership with patients and other health care providers, to achieve positive health outcomes and/or to maintain or improve quality of life for the patient." [22] This statement indicates the philosophy of PC. Furthermore, the Canadian Society of Hospital Pharmacists includes in its mission statement the phrase "patient-centred pharmacy practice". [23] Again, a reflection of PC.

4.2 Skills

Ensuring that pharmacists have the skills, knowledge and tools to provide PC, through the provision of internal or external training programs and continuing education support, are important in the implementation of PC. Many pharmacists are used to providing traditional clinical pharmacy activities as previously discussed. The shift in focus from drug products to patients requires time and a willingness to readjust each individual pharmacist's way of practicing. A 1994 survey found that 26% of Canadian hospital pharmacies surveyed had developed their own internal training program to support their staff in PC practice.[20] By 1995/1996, two-thirds of Canadian hospital pharmacies had incorporated PC concepts, such as discussions of drug-related problems and patient outcomes, into their departmental education programs.[21] This does not mean that the surveyed hospitals had implemented PC completely.

In addition to internal programs, external educational programs have been developed to teach PC to hospital pharmacists.[24-29] As part of achieving the CSHP's "Vision 1997" to support direct patient care practice, an education program was developed to train hospital pharmacists to provide PC.[24-28] CSHP further demonstrated support of pharmacists in sharing their experiences regarding PC implementation and practice by incorporating PC themes within professional educational programs at national and provincial meetings. For example, of the poster abstracts during the 1996 CSHP Professional Practice Conference, about one-quarter focused on PC, indicating an active interest in the sharing of practice ideas.[29]

Internal and external training programs directed at the practising pharmacist have existed for nearly a decade. There has been a shift in focus to training pharmacy students in the PC philosophy. Pharmacy schools have recognised the importance of these skills and have incorporated training in the philosophy of PC into educational curricula to provide students with appropriate tools to develop PC skills. The Association of Faculties of Pharmacy of Canada (AFPC) addresses the training of both baccalaureate and Doctor of Pharmacy students through a series of professional outcomes. The first outcome for both programs is defined as "pharmacy graduates, in partnership with patients and other health care providers, use their knowledge and skills to meet patients' drug-related needs, with the objective of achieving optimal patient outcomes and maintaining or improving patients' quality of life".[30] Although this outcome does not use the terminology "pharmaceutical care", the essential elements are outlined in detail.

Today, the PC model of practice is an expectation by the profession. In a 2001/2002 pharmacy survey of 123 hospitals, 75% self-reported that PC was provided to some of their patients.[31] This was a significant increase from 30% of 172 hospitals surveyed in 1993/1994.32 For hospitals reporting PC services in the later survey, approximately one-third of all patients, as determined by bed count, were receiving PC. Many hospitals appear to use a

combination of traditional clinical pharmacy activities and PC to provide care to their patients.[31] This may reflect the current lack of resources to allow more patients to receive the valuable, higher level of care. Although PC was defined in this survey, there were no criteria outlined. Therefore, interpretation of the data may suffer some of the same limitations as the studies discussed in section 3.

5. BARRIERS

Many real and perceived barriers, both internal and external to the profession of pharmacy, have hindered the application of the PC philosophy to actual practice. The validity and magnitude of barriers have been difficult to assess and quantify. However, a review of the essential elements for successful application of PC allows easy identification of potential barriers.

Barriers to the initial essential element of PC, establishing a relationship with an individual patient, can be recognized and broadly categorised as professional, environmental, practical, and cultural. The pharmacist's intrinsic ability to create an open, covenantal relationship requires professional knowledge and skill in establishing a relationship, which the patient welcomes as part of his care. The need for education and instruction in establishing and maintaining open relationships with patients has been recognised by the profession, and many teaching tools are available for pharmacy students and practising pharmacists.[24] The lack of an appropriate physical environment in which to establish a relationship with a patient is a major barrier to PC . A busy inpatient hospital ward or outpatient clinic, open to other patients, with telephones ringing and pagers beeping, is a real barrier to 'connecting' with a patient. Practically, many pharmacists do not have time to establish the relationship with the patient; rather, a brief exchange of information, frequently unidirectional, occurs between the pharmacist and the patient.

Cultural barriers to the provision of PC include the patient's beliefs regarding the pharmacist's role in their care; and frequently the beliefs of the pharmacist of their role in the patient's care.[33] Both parties often underestimate the beneficial effect of the pharmacist's participation for maximizing the potential for a successful outcome to the patient's therapy.

Barriers to the second essential element of the PC process, the application of the pharmacist's unique knowledge and skills in order to identify, resolve or prevent a patient's drug-related problems, can be broadly categorised as professional knowledge and skills. Pharmacists with inadequate knowledge of diseases (aetiology, pathophysiology, symptoms, consequences), drugs (pharmacology, pharmacodynamics, pharmacokinetics, toxicities) or therapeutics, are limited in their ability to identify drug-related problems and possible treatments. British pharmacists have identified clinical knowledge and confidence in their ability to make appropriate clinical decisions as major barriers to establishing roles in direct patient care.[34] The efficacy of PC is dependent upon the pharmacist's ability to apply didactic knowledge and clinical skills to the care of an individual patient, to determine the pharmacotherapeutic options and to develop a monitoring plan.

The final essential element of accepting responsibility with the patient for implementation of the pharmacotherapeutic plan and its outcome is frequently limited by lack of access to the patient's physician and to continued access to the patient for follow-up. The practice environments of the pharmacist and of the physician may limit the opportunity for constructive discussion be tween the two professionals regarding the drug-related problem(s) of individual patients. Pharmacists need to examine their own practice habits (location, prioritization, role) to help remove obstacles to constructive interaction with physicians. Physician acceptance of PC and the expanded role of the pharmacist into areas of practice that have

traditionally been perceived as the primary domain of the physician may be problematic. However, several review articles refer to considerable acceptance by physicians of pharmacists' recommendations for patient care.[10,12,15] A recent survey of physicians' opinions of enhanced patient care following the SCRIP study provide some conflicting results, with only one-quarter of respondents perceiving that their patient's cardiovascular risk had been improved as a result of the pharmacist's intervention.[35] On the other hand, over half of the respondents had a favourable reaction to the program and the majority were in favour of similar programs aimed at other disease states.[35]

There are additional examples in the recent Canadian[36-39] and United States' [40-41] literature regarding the value and expanded scope of pharmacy practice and the roles of physicians and pharmacists in patient care. Traditionally, the physician has maintained ultimate responsibility for the patient. Provision of PC compels the pharmacist to assume some of this responsibility. As pharmacists become more involved in patient-centred care, issues surrounding ultimate responsibility and accountability, legal liability, prescribing authority, etc. will need to be examined and clarified. However, as advocated by both physicians and pharmacists, collaboration among health professionals can and should be achieved to facilitate the ultimate goal of optimizing patient care.

Pharmacists also need to examine methods for establishing consistent follow-up with patients, to ensure that actions initiated to resolve drug-related problems are carried through and achieve the desired goals. Patient "hand-off" and follow-up by other pharmacists needs to be established and consistent. Frequently, changing schedules and pharmacist assignments result in inconsistencies in patient-focused care, as staff with varying knowledge, skills and experience may rotate through a patient care area.

Some barriers are related to direct patient care in general, rather than PC specifically. Pharmacists frequently feel that lack of time (by extrapolation, insufficient numbers of pharmacists) is a barrier, as is lack of access to the patient to complete the steps necessary for provision of PC. European pharmacists have identified time, and the associated remuneration, as major barriers to their provision of PC.[42-43] Some issues with time constraints may be resolved by reducing the pharmacist's responsibilities for drug distribution in order to maximize time for provision of patient-focused care. This may be realized through realignment of pharmacists' technical duties to technicians or by use of automation in medication preparation and delivery processes. Providing pharmacists with more time to perform patient-focused care is probably the largest challenge in the implementation stages of PC and continues to be a major issue.

Pharmacists need to continue to measure and document the impact of their action on individual patients' care, and on patient populations in general. Although published at a time when PC was not consistently practiced, Canadian pharmacists did identify administrative strategies to help overcome barriers to provision of PC in the health care facility setting.[44] Sharing of this clinical impact information through professional publications can assist other pharmacists to collect sufficient data to justify the additional expense of contributing more pharmacists' time (and, by extrapolation, more pharmacists) to the provision of PC.

In reviewing the evolution of pharmacy practice with the PC model, the focus now turns to provision of "seamless care". As part of the pharmacist taking responsibility to ensure a patient's drug-related outcomes are achieved, it is necessary for pharmacists to develop mechanisms for continuity of care, or seamless care. Transfer of patient information to the community pharmacist provides them with an opportunity to take on the responsibility of ensuring appropriate patient outcomes. Provision of seamless care is a

continuation of the PC process. In a 2001/2002 survey, 31% of hospital pharmacies had developed a policy for the provision of seamless care, where information was transferred to the community for an average of 15% of patients.[31] The Canadian Society of Hospital Pharmacists has promoted the concept of seamless care by establishing the Seamless Care Task Force.

6. SUMMARY

As a philosophy, PC has been embraced by the profession. Professional bodies and schools of pharmacy have moved to endorse this model of practice. Although a greater percentage of patients are receiving PC, the majority may still not be receiving this level of care.

Some barriers to the provision of PC must be resolved by the profession through examination of how pharmacists are trained and how they deliver care. Other barriers are issues in the broader context of the health care system and require collaboration with other health care providers or the development of different models for the process of care delivery.

Resources continue to be a significant barrier. Although there is benefit in sharing anecdotal successes with individual patients, pharmacists must move forward with a coordinated effort to demonstrate the value of PC, providing evidence of its benefits to government and third party payers. In order to be successful in the competition for health care resources, pharmacists must convince others, including patients, of the value of PC.

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