

Should Pharmacy Technicians Be Trained to Obtain Medication Histories and Provide Discharge Counselling?

THE "PRO" SIDE

Pharmacy technicians should be trained to obtain medication histories and to provide medication discharge plans as part of processes to improve the level of care for patients at transition points. It has been clearly documented that patients are at risk of adverse drug events at the times of admission to and discharge from a health care facility.^{1,4} The risk to the patient at these transition points has recently become a focus of attention for hospitals, through expanded patient safety initiatives. To help reduce the risks associated with medications, pharmacy departments are increasingly expected to provide services that will optimize the safe and effective use of medications, including medication reconciliation at transition points. Current accreditation standards for Canadian hospitals include the requirement to establish processes for medication reconciliation at transition points, and every hospital must demonstrate activity in this area during its next accreditation audit.⁵ The current pharmacy workforce in Canadian hospitals may not be adequate to respond to those demands, particularly with expansion of the pharmacist's role in many other areas, including prescribing and monitoring authority. Delegating specific activities, such as some aspects of medication reconciliation, to pharmacy technicians (with appropriate training and supervision) is a sensible step in managing resources effectively.

The potential for pharmacy technicians to complete specific steps in the medication reconciliation process has been demonstrated in various settings. Michels and Meisel⁶ demonstrated that pharmacy technicians' involvement in obtaining medication histories for surgical inpatients improved the transition in medication regimens from home to hospital (specifically by improving the completeness and accuracy of documentation and by improving communication among care providers), reduced the potential for adverse drug events, and improved the overall satisfaction of nursing and pharmacy staff with the home medication process. Reports of innovative use of pharmacy technicians to obtain medication histories have shown a reduction in potential inpatient medication errors and an increase in the effective utilization of resources.^{7,8} In an effort to streamline operations and increase pharmacists' availability for direct patient care activities, several institutions in Canada have successfully integrated pharmacy technicians in both outpatient and inpatient care.^{9,10} The benefits of pharmacy technicians' involvement in completing the medication history and the medication discharge plan include prevention of adverse drug events, reduction in the time that nurses and physicians spend on technical tasks at admission and discharge, development of collaborative practice models, and enhanced job satisfaction.

Use of the appropriate combination of human resources and technology is supported by various levels of government.^{11,12} For example, in New Brunswick, a provincial initiative that focuses on using the right mix of pharmacists, pharmacy technicians, and technology will be undertaken to ensure that scarce pharmacist resources are used as effectively as possible in hospital settings.¹³

A coordinated approach to human resource utilization is required to ensure that the pharmacy workforce meets the future needs of the health care system. The Blueprint for Pharmacy provides a vision and mission for pharmacy based on the enhanced roles that pharmacists and pharmacy technicians must play in the future to meet the health care needs of Canadians.¹⁴ The research program of Moving Forward: Pharmacy Human Resources for the Future has generated data regarding the structure and nature of the pharmacy workforce of the future, the expectations and readiness of the profession to meet these future human resource requirements, and the human resources implications of how pharmacy will be practised in the future. An enhanced role for pharmacy technicians is seen as a key enabler to support an expanded role for pharmacists in medication management.¹¹

Successful delegation of activities to pharmacy technicians will require changes in legislation and standards of practice, coupled with relevant training and supervision by pharmacists. Various organizations across Canada are working together to implement standardized and accredited training programs for technicians. As pharmacy leaders, we must support those initiatives. We must also strive to identify opportunities for innovative practice, provide direction, and mobilize resources to meet patient care needs.

In a time of workforce shortages, it is critical to maximize the contribution of all health care providers. The shared accountability of various team members significantly aids in accurate medication reconciliation across the continuum of care. It is my belief that a trained pharmacy technician can accurately obtain medication histories and communicate medication discharge plans, thereby reducing the chance of medication errors and facilitating the work of the pharmacist and other team members.

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THE "CON" SIDE

Ever-increasing demands on the health care system and changes in health care delivery require the effective use of human resources to provide patient-centred, outcomes-focused care and to optimize the safe and effective preparation, distribution, and use of medications. Pharmacists play an increasingly important role in medication management, spending more of their time managing drug therapy issues and monitoring drug therapy outcomes in collaboration with patients, caregivers, physicians, and other health care providers.

Expanding the roles and responsibilities of pharmacy technicians forms an integral part of this more fully realized patient-centred and outcomes-based care. The concept of engaging technicians in obtaining medication histories and providing discharge counselling is appealing on the surface; however, the perspectives of both patients and the system as a whole must also be taken into consideration.

Specialized Skills of Pharmacy Technicians

As indicated by their competencies for entry into practice, pharmacy technicians work in collaborative relationships, and their expertise focuses on knowledge, skills, and abilities related to the technical aspects of prescription and patient information and of product and drug distribution. They are responsible and accountable for ensuring patient safety, as well as for the accuracy and quality of product preparation and release. They collaborate with pharmacists in promoting wellness, preventing disease, managing chronic disease, and supporting the autonomy of patients.¹ Furthermore, educational outcomes developed by the Canadian Pharmacy Technician Educators Association speak not only to the preparation of pharmaceutical products but also to the checking of products prepared by other pharmacy technicians and, where permitted, other members of the pharmacy team.²

Recognition of the importance of the technician's role in sterile compounding is further exemplified by the Alberta College of Pharmacists' criteria for recognition of pharmacy technician programs. These criteria include course content requirements for aseptic technique, IV admixture, total parenteral nutrition, and chemotherapy prepara-

tion.³ I believe that no other group of health care providers has such a stringent focus on sterile compounding as part of its core training.

It has been recognized since 1980 that central preparation of unit doses of medication intended for IV administration (i.e., within the pharmacy department) is the ideal way to ensure that sterile products are therapeutically appropriate; free from microbial, pyrogenic, and particulate contaminants; correctly prepared; and properly labelled, stored, and distributed. However, respondents to the survey of hospital pharmacy in Canada⁴ who reported providing IV admixture services estimated that only 47% of total parenteral doses administered (IV, IM, SC, and epidural combined) were either prepared through the IV admixture service or provided as commercially available, ready-to-use admixtures. Among the 134 facilities for which respondents reported the provision of IV admixtures, patient care areas receiving the service included the operating room (49%), the emergency department (63%), other outpatient areas (75%), critical care (83%), and other inpatient areas (95%).⁴ Clearly, pharmacy technicians can fill this significant gap in the delivery of centralized IV admixture services and health care to our patients.

Other studies have indicated that pharmacy technicians are at least as accurate as pharmacists in the verification of product preparation and in the identification of dispensing errors.^{5,6} In the survey of hospital pharmacy in Canada,⁴ 92% of respondents reported that pharmacy technicians check the work of other technicians. However, there remains significant opportunity to expand this practice. Only 55% of respondents reported a technician-check-technician process for batch IV admixtures, 45% for patient-specific admixtures, 30% for total parenteral nutrition solutions, and 57% for interim dose fills.⁴ These selected examples illustrate that the system has not fully utilized technicians in a function where evidence supports the practice.

Relational Continuity, Pharmaceutical Care, Medication Reconciliation, and Seamless Care

Health care providers, policy-makers, and patients are increasingly concerned about fragmentation of care. Relational continuity refers to an ongoing therapeutic relationship between a patient and one or more providers. It not only bridges past and current care, but also provides a link to future care. An ongoing patient-provider relationship is highly valued in settings such as primary care. Even where there is little expectation of establishing ongoing relationships with caregivers (e.g., in in-hospital care), interaction with a consistent core of personnel can give patients a sense of predictability and coherence. Recent nursing literature emphasizes the importance of "continuity of nurse" and recommends reducing the total number of nurses who provide care to an individual patient, to engender consistency of care and responsiveness. Patients, particularly those whose health is fragile, do not want to repeat their stories and preferences to a multitude of providers.⁷

The concept of pharmaceutical care aligns with the patient's need for relational continuity.⁸ The pharmaceutical care model focuses on drug-related problems, and medication reconciliation can be viewed as one of the processes that support identification and resolution of drug-related problems.

The initial step in medication reconciliation is creating a best possible medication history (BPMH) by consulting multiple sources of information. Reviewing the BPMH against admitting orders for discrepancies is part of the medication reconciliation process and, arguably, an inherent part of the pharmaceutical care process, facilitating identification of potential drug-related problems. However, medication reconciliation is not merely a process of comparing medication lists. It also involves a cognitive process whereby a health care provider probes



for medication-taking behaviours (since what is documented may not reflect what the patient is actually doing), assesses whether the medications listed make sense for the defined conditions, and identifies any errors of omission based on the patient's clinical condition.⁹

Medication reconciliation at discharge involves comparing the BPMH, the medication administration record for the past 24 h, and any new medications started upon discharge to identify and resolve discrepancies and then using this information to prepare the best possible medication discharge plan (BPMDP). The BPMDP needs to be communicated to the patient, the community pharmacist, the community physician, and any alternative facilities or services, as a component of seamless care.¹⁰

Schnipper and colleagues¹¹ studied the role of pharmacist counselling in preventing adverse drug events after admission to hospital. Medication review, discharge counselling, and telephone follow-up by pharmacists were associated with a significantly lower rate of preventable adverse drug events at 30 days after discharge. The authors recommended that postdischarge interventions should focus on identifying discrepancies between discharge medication orders and patients' self-reported regimens. Additional follow-up interventions may be necessary for sustained benefits in medication adherence and discrepancies, as well as improved detection of ameliorable adverse drug events, again supporting the fundamental tenets of seamless care.¹¹

Pharmaceutical care should be provided to all patients with complex and high-risk medication regimens. Patients with these types of medication regimens must be seen by a pharmacist throughout their stay, including at admission and discharge. As noted above, to decrease fragmentation in care, it is preferable to minimize the number of health care providers who interact with the patient. Therefore, medication history-taking and discharge counselling for patients with complex regimens should be provided by the pharmacist. Although there are components of medication history-taking and discharge counselling that pharmacy technicians could be trained to provide for low-risk patients, there is a need to be sensitive to the patient's need for relational continuity. Medication history-taking and discharge counselling could also be provided by other health care providers who are already participating in the admission or discharge process, with referral to a pharmacist when required.

Conclusions

Pharmacy technicians possess a unique set of skills enabling them to have a positive impact on the health care system. As indicated by the survey of hospital pharmacy in Canada,⁴ the utilization of these skills has not been maximized. All roles in health care and the determination of responsibility for those roles must be considered in the context of what makes sense, not just who has the ability. Like many health care professionals, technicians represent a limited resource; health care systems must focus on maximizing their contribution by using their unique skills to the overall benefit of the system and the patient.

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