

Should Accreditation Canada's Required Organizational Practices and Standards Lead to Prioritization of Clinical Pharmacy Services over Distribution-Related Medication Safety Strategies?

THE "PRO" SIDE

Our position is that clinical pharmacy services should be prioritized over distribution-related medication safety strategies to assist in achieving current Required Organizational Practices (ROPs) and in formulating new ROPs. The following 3 key considerations, discussed in more detail below, support this viewpoint: (1) high-quality randomized controlled trials (RCTs) and systematic reviews have demonstrated improvements in patient outcomes through clinical pharmacy services; (2) pharmacists providing direct patient care are better positioned and better equipped to influence ROPs than pharmacists within the distribution system, a situation that leads to improved safety and outcomes for patients; and (3) the profession is ready to implement, measure, and assess the practice changes required to achieve evidence-based ROPs that incorporate and recognize clinical pharmacy services.

The literature presents overwhelming evidence that clinical pharmacy services improve patient outcomes. One systematic review demonstrated that mortality declined when pharmacists performed drug-use evaluation and in-service education, assessed adverse drug reactions, developed drug protocols, participated on the cardiopulmonary resuscitation team and medical rounds, and collected drug histories on admission.¹ Another systematic review showed that pharmacists improved patient outcomes by participating in rounds, interviewing patients, performing medication reconciliation, counselling patients at discharge, and performing postdischarge follow-up.² A recent prospective trial demonstrated that the provision of comprehensive pharmaceutical care to patients through internal medicine teams reduced 3-month readmission rates and improved 20 separate evidence-based, disease-specific indicators, relative to services provided by distribution pharmacists.³ In a prospective RCT, which compared reactive pharmacist care with ward-based pharmacist care, the latter approach was associated with fewer emergency department visits, hospital visits, and drug-related readmissions, as well as lower total costs of care per patient over the following year.⁴ Given the amount of supporting literature, it is clear that ward-based clinical pharmacy services have positive effects on patient outcomes. Accreditation Canada's ROPs should align with this

high-level evidence and should target specific metrics replicating these outcomes in Canadian health care institutions.

The second consideration supporting prioritization of clinical pharmacy services is that pharmacists in direct patient care roles are better positioned and better equipped to effect improvements in ROPs than pharmacists providing distribution-related services. The clinical pharmacist is positioned, from the time of prescribing, within the medication-use process and can therefore engage in a proactive, rather than reactive, approach to patient safety. This perspective allows the clinical pharmacist to assess all categories of drug-related problems in the provision of pharmaceutical care and to resolve potential problems before they actually occur.⁵ In a recent study examining medication error rates in an emergency department, 6 errors occurred in 242 patients (2.5% error rate) when a pharmacist was present, whereas 137 errors occurred in 452 patients when the pharmacist was absent (30.3% error rate).⁶ In the critical care setting, participation of a pharmacist on rounds was associated with reductions in the rates of adverse drug events (from 33 to 11.6 events per 1000 patient days) and preventable adverse drug events (from 10.4 to 3.5 per 1000 patient days).⁷ In general, patient safety is improved by having pharmacists readily available who are trained with the knowledge and skills to recognize and report adverse drug events.⁸ Pharmacists' ability to interact with patients on the ward and to improve patient safety supports the goals outlined by Accreditation Canada.⁹

In addition, several of the key ROPs currently targeted by distribution services could be effectively met with proactive clinical pharmacy services. For example, the goal of the communication ROP category is to improve the effectiveness and coordination of communication among health care providers and recipients of care.⁹ Pharmacists can meet this goal by being active on the ward, improving contact and communication with other health care professionals, allowing for education about and correction of dangerous abbreviations, and reducing discrepancies associated with medication reconciliation at admission, transfer, and discharge.⁸ Similarly, pharmacist involvement in streamlining, optimizing, and de-escalating antimicrobial therapy assists in meeting ROPs for antimicrobial stewardship.^{10,11} Furthermore, with regard to ROPs related to infection control, a report on immunization noted an increase in the influenza and pneumococcal vaccination rate (from 45% to 78% of adult inpatients) after a clinical pharmacist was added to the care team.¹² Pharmacist assessment has also shown benefit in improving patient safety through reduction of medication-related falls, screening of patients for prophylaxis of venous thromboembolism, and performance of medication reconciliation and patient education before hospital discharge. Such assessment addresses several additional ROPs.¹³⁻¹⁵ By prior-

itizing clinical services involving direct patient care, the pharmacy department can not only contribute to meeting current medication-related ROPs, but also expand the department's role in meeting a broader range of ROPs.

Finally, as a profession, pharmacists are ready to continue supporting the establishment and advancement of clinical pharmacy services, which in turn will support the achievement of evidence-based ROPs to incorporate and recognize clinical pharmacy services. The evolution of technician regulation, the CSHP 2015 targets of the Canadian Society of Hospital Pharmacists (CSHP), and development of national key performance indicators are all initiatives that support this transition.¹⁶ The regulation of technicians, now in effect in many provinces, presents an opportunity for pharmacists: regulated technicians can perform the technical functions required to meet current distribution-related ROPs, thereby allowing pharmacists to focus on providing clinical services and target a different set of ROPs.^{17,18} In addition, the CSHP is establishing benchmarks for clinical services through 2 initiatives: CSHP 2015 and the definition of key performance indicators. The CSHP 2015 initiative has set clear benchmarks for clinical services, which can support current ROPs and provide a basis to include more evidence-informed clinical service ROPs in the future.¹⁹ The CSHP National Clinical Pharmacy Key Performance Indicator Working Group is using a systematic, national evidence-informed consensus process to develop a core set of key performance indicators for hospital pharmacists, which it will disseminate to key stakeholders.²⁰ Through this national consensus, we as a profession can ensure consistency in the clinical services provided across the country. This consistency could, in turn, lay the foundation for the development of ROPs related to clinical pharmacy services and the metrics to support their measurement.

Given the abundance of contemporary literature about the value of clinical pharmacy services, Accreditation Canada should set ROPs that recognize and focus on pharmacists' role in direct patient care. With increasing technical and leadership support available within the profession, pharmacists are in an ideal position to transition toward clinical pharmacy-related expectations and initiatives. Adjusting national ROPs to include clinical pharmacy services would be an excellent strategy to continue furthering evidence-informed practice and promoting a culture of improved patient safety in Canadian health care organizations.

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THE “CON” SIDE

Although today’s pharmaceutical care model embraces clinical pharmacy services as essential, its success presumes a fully functional institutional medication distribution system. Ask what is expected of pharmacy, and “drugs” would be the common reply. If the core pharmacy mandate is safe, high-quality patient care, then timely provision of the 5 rights of medication administration (right patient, right drug, right dose, right route, and right frequency) is crucial.

Three points support our recommendation to prioritize distribution services to meet required medication safety strategies.

- the impracticality of focusing on clinical services to achieve Required Organizational Practices (ROPs)
- the impact on patient safety resulting from the necessary displacement of pharmacists from distribution activities
- the inherent incorporation of medication safety strategies within distribution services

Impracticality of Focusing on Clinical Services to Achieve ROPs

Accreditation Canada develops each ROP for intent, clarity, feasibility, measurability, and importance in driving patient safety.¹ However, the ROPs do not constitute a primary instrument to move the profession of pharmacy forward.

In a study of 4 national clinical pharmacy databases, Bond and others² showed that only 38% of 45 734 pharmacists employed in US hospitals were devoted to providing clinical pharmacy services. These authors also estimated that providing 14 specific clinical pharmacy services for 100% of inpatients would require the creation of 37 814 new full-time equivalent (FTE) positions.² If only 5 core clinical pharmacy services were selected for 100% patient coverage (drug information, adverse drug reaction management, drug protocol management, medical rounds, and admission drug histories), 14 508 new FTE positions would still be required.

In one region in the United Kingdom, 94% of all hospitals reported use of a clinical pharmacy service.³ However, only two-thirds provided service to all wards, and 37% of hospitals did not meet the minimum standard for frequency of visits to acute care wards. If medication safety assessments are to depend solely on these services, attitudes and current methods of practice must be changed.³

Accreditation Canada requires that each ROP be met within 1 year of its establishment.¹ This is an unrealistic time frame to implement a shift to clinical services, especially given that few small community hospitals are currently providing such services. Programs and tools to allow for safer, more efficient drug distribution are not equally available across all hospitals. For example, only 9.1% of hospitals in the United States have basic electronic record-keeping in place.⁴

Changing ROPs to focus on clinical services would require abrupt relocation of pharmacists from the dispensary to patient care areas. Furthermore, if pharmacists are removed from the dispensary, ensuring that medication safety standards are met

would necessitate an unrealistic expansion of work hours of those pharmacists who remain in the dispensary.

Impact on Patient Safety Resulting from Displacement of Pharmacists from Distribution Activities

Several studies by Bond and others^{5,6} have suggested that increasing clinical pharmacy services could lead to benefits in terms of lower mortality, cost savings, and reductions in medication errors. However, those studies were done in hospitals with clinical programs that supplemented the already established distribution service.

The physical presence of pharmacists within the distribution setting has direct implications for patient safety. These health care professionals serve as a structured filter to ensure that every medication order has been reviewed for therapeutic suitability. Conversely, their absence creates a safety gap between ordering and administration.

Lacaria and others⁷ used a 32-item survey to investigate perceptions of professional pharmacy services within various stakeholder groups at Vancouver General Hospital, including patients, pharmacists, nurses, and physicians. According to this study, the most important distribution service provided was resolution of patient-specific medication issues by dispensary-based pharmacists. Drug distribution–related services had 100% awareness among pharmacists, 95% awareness among nurses, and 84% awareness among physicians. However, clinical services had lower levels of awareness: 95% among pharmacists, 74% among nurses, and 72% among physicians.⁷

Pharmacists’ involvement in the distribution process is well recognized as affecting patient safety. The removal of pharmacists from this role may offset the benefits of clinical services that are seen in formal trials, and it remains unclear whether mortality benefits would be reproduced in the absence of a rigorous distribution service. The current ROPs of Accreditation Canada’ focus on distribution services because these services have been identified as high-priority activities central to quality and safety, and they are achievable by hospitals and pharmacies of any size.

Distribution is 1 of the 5 core responsibilities of pharmacists.⁸ It is a foundational activity that influences the largest number of patients on a per-pharmacist basis. Effectively using pharmacists and pharmacy technicians together can improve the safety, security, and integrity of the drug distribution system and patient care.

In a 2011 editorial in this journal, Vaillancourt⁹ emphasized how drug distribution aligns with the essential requirements of providing pharmaceutical care. Vaillancourt cited the remarks of a speaker at the 2007 conference of the American College of Clinical Pharmacy to stress that “inclusion of drug distribution as part of the self-perceived role of a hospital pharmacist does not negate or contradict the concept of patient-centered care. . . . [A]s we strive to expand our scope of practice into the realm of patient-focused care, we must maintain our core responsibility as stewards of medication management systems and ongoing quality assurance”.⁹

Inherent Incorporation of Medication Safety Strategies Within Distribution Services

Some of the leading advances in medication safety have been related to distribution, including unit-dose systems, automated dispensing units, standardization of concentrations, and bar-coding for medications and patients.

The practice of clinical pharmacy embraces the concepts of both pharmaceutical care and medicine management, which together define the ways in which medicine is selected, procured, delivered, prescribed, administered, and reviewed to optimize desired outcomes of patient care.¹⁰ Some of these elements of clinical pharmacy are inherently achievable through the distribution service, where the practitioner can ensure that the right drug gets to the right patient at the right time.

During the drug distribution process, the benefit of double checking before release of medicines from the pharmacy has been supported by evidence. In one systematic review,¹¹ implementation of a double check reduced dispensing errors from 2.98 to 2.12 per 1000 medications administered. One study included in the review noted a reduction in the number of dispensing errors from 9.8 to 5.9 per year in a single hospital pharmacy.

Conclusion

Distribution-related medication safety strategies affect all patients and all medications provided in institutional practice. Given the current economic climate and the limited availability of trained clinical pharmacy staff, adherence to this prime objective remains an imperative for Canadian institutional pharmacy practice, for the sake of patient safety.

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