

Pharmacist Participation in CPR Needs Resuscitation

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The participation of pharmacists in cardiopulmonary resuscitation (CPR) is associated with reductions in mortality, adverse drug reactions, and medication errors.¹⁻³ Medication errors during CPR situations are 39 times more likely to harm and 51 times more likely to result in the patient's death than non-CPR-related medication errors.⁴ The most common error types noted are administration of an improper dose or quantity of the correct drug and administration of the wrong drug, areas where pharmacists' unique drug-knowledge expertise is an asset.⁴ It is not surprising, then, that pharmacist participation in CPR has been associated with increased compliance with advanced cardiac life support (ACLS) guidelines.^{5,6}

CPR is performed during rapidly evolving emergencies in which numerous medications are to be used according to specific standardized protocols. In these situations, pharmacists have undertaken multiple roles, most commonly providing drug therapy recommendations and drug information, calculating drug dosages, preparing medications for administration, timing and documenting the administration of medications, and, less frequently, administering medications, setting up infusion pumps, and performing chest compressions.^{6,7} Although the mechanism by which pharmacist participation on CPR teams improves patient outcomes may be a reduction in medication errors or an improvement in guideline compliance, CPR participation may also be a marker of an increase in the provision of patient-focused services by pharmacists in general or an indication of an established patient care role for the pharmacist on the health care team.

In this issue of the *CJHP*, Bolt and others⁸ report the results of the first national survey of pharmacist participation in CPR in Canada. Although based on a small number of respondents, this work is important in examining pharmacist practices in CPR care. In terms of the study's main objective, only 10 (23%) of the 43 survey respondents reported that pharmacists participated on a CPR team, a rate considerably lower than the 32%–41% reported in prior surveys conducted in the United States.^{1,2,7,9} The authors'

research identifies a clear deficiency in the adoption of a practice—having pharmacists participate on CPR teams—that has been shown to be associated with reduced mortality.

Bolt and others⁸ found that organizations where more than 50% of pharmacists had residency training were more likely to have

pharmacist participation on the CPR team. Small sample sizes prevented identification of other predictors, although doing so will be crucial in identifying potential supportive organizational or pharmacist characteristics that promote participation on CPR teams. Further research on predictors may aid in fostering the uptake of this important pharmacist activity in practice.

Prior research in this area has also suggested that a lack of confidence in their skills may prevent pharmacists from taking the initiative to participate in CPR-related activities. However, other health care providers are more certain of the value that pharmacists can add to CPR teams.^{10,11} In a survey of nurses and physicians, 97% agreed that “the presence of the [emergency department] pharmacist during trauma and medical resuscitations enhances my ability to deliver safe, quality care to patients”.¹⁰ As confidence is often correlated with self-perceived preparedness, CPR-specific training may help improve pharmacists' confidence levels.

Bolt and others⁸ also identified participants' self-reported barriers to CPR participation, which included training, inconsistent coverage, and staff shortages. A systematic approach to CPR training for pharmacists may alleviate the most commonly noted barrier, that related to training. The Accreditation Council for Pharmacy Education in the United States has recommended the



integration of ACLS within the PharmD curriculum and has encouraged the use of patient-care simulation when available and appropriate. It may be prudent to consider enhanced training in Canadian pharmacy school curricula, with hands-on skills practised during internship or residency training, requirements for ACLS certification once in practice, and ongoing training provided by hospitals and professional organizations, as a means for stepwise progression of CPR skills and training.

There are always competing priorities for pharmacists' time and effort, but if we have evidence that pharmacist participation in CPR is associated with saving lives, how can we justify not participating? The barriers of lack of training and confidence can certainly be addressed through systematic efforts. Justifying this role to administrators and other health care providers with existing data on reductions in mortality and medication errors and improvements in ACLS guideline adherence may support requests for additional staffing. With only 1 in 4 CPR teams in Canada including a pharmacist (according to the current survey), it appears that more could be done to optimize patient outcomes in the CPR setting. Let's not wait on the sidelines any longer, but instead, commit to our role as essential members of the CPR team.

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ON THE FRONT COVER



Canada Day Ottawa, Ontario

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Ottawa on Canada Day, 2011. He used a Canon SX10IS to capture the moment.

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