Richmond Hospital Preventable Adverse Drug Event Program

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10% of medical admissions to hospital are likely to be due to a preventable adverse drug event (pADE). A recent study at Richmond Hospital identified the root causes of possible pADEs that caused or contributed to admission for 120 patients. Key learning was developed into 10 key messages for sharing with community providers (physicians and pharmacists), patients, and families. The intent with this initiative is that we have a means to learn from and monitor pADEs, so that strategies can be developed to prevent or mitigate future pADEs and reduce emergency department visits and hospitalizations.

6 Provider Messages.

Available at:
https://www.vchri.ca/our-research/research-vch/research-programs-and-communities/richmond-community-care

- Medication Sick Day Plan (Medications to stop on sick days)
- Preventing Bleeding Events
- Community Acquired Pneumonia (and Nursing Home Acquired Pneumonia)
- Medication Mix Ups (How to avoid)
- How to write an Asthma Action Plan (with examples) [Written mainly for pharmacists]
- Intentional Non-Adherence (How to identify and address) [Written mainly for pharmacists]

4 Messages for Patients/Families.

Available for ordering at: ***http://vch.eduhealth.ca***
Search using exact titles or catalogue #. Materials available in Traditional Chinese.

- Your medication plan for sick days (BA.505.S53) (also available in Punjabi)
- COPD Flare Up Plan (FN.510.F66)
- How to prevent worsening of heart failure symptoms (FD.780.H434)
- Measuring blood pressure at home (and recognizing orthostatic hypotension) (BD.820.W74)

Routine communication to providers regarding pADEs

An electronic tool has been developed to allow prompt communication to the provider of patients presenting to hospital with a possible pADE. Following assessment by the healthcare team we will share information of the possible pADE, identified root cause(s), actions taken in hospital, and any follow-up requested. We intend to routinely share what root causes are identified for patients presenting with possible pADEs. In this way we hope to monitor future pADEs and increase awareness among our provider community of ways we can address root causes of pADEs to mitigate or prevent recurrence.

Richmond Hospital Preventable Adverse Drug Event Program. Funded by the Richmond Hospital Foundation and the
Vancouver Coastal Health Research Institute Innovation & Translational Research Award 2016 May 2019. * UBC Faculty of Pharmaceutical Sciences

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BRIEF OVERVIEW OF STUDY METHODS

- **Definition of pADE.**
  For the purpose of this initiative, a possible adverse drug event was defined as harm that occurred from taking (or not taking) a medication; therapy was provided that did not reflect current recommendations. In addition, the hospital provider needed to modify the implicated medication.
- **pADE and root cause identification.**
  Patients with possible ADEs and their families/caregivers following informed consent, were interviewed. Community pharmacists and prescribing physicians were also interviewed if information was felt to be contributory. Structured chart abstracts were independently assessed by a pharmacist and physician for ADE causality, preventability, seriousness, and preliminary analysis of root causes. Then the research committee discussed any discordance and finalized root causes. The research committee identified key learning to be developed into messages with expert content review.

COMMON PRESENTATIONS OF pADEs (n=120 patients)

• COPD/asthma	13.5%
• Hypotension	11.7%
• Bleeding	12.5%
• Heart Failure	10%
• Various presentations (due to med mix ups)	5%
• Unresolved community acquired pneumonia	5%

COMMON ROOT CAUSES: % OF PATIENTS AFFECTED (> 1 root cause identified PER patient; N=314 root causes)

• Patients/families did not understand information (possibly) provided	29.1%
• Patients/families were not able to recognize medication side effect	24.1%
• Intentional non-adherence with medication	17.5%
• Patient needed a sick day medication plan	12.5%
• Patient/family did not know how to identify if medication is working	14.1%
• No action plans (Heart failure, COPD, and asthma)	10.8%

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