

ISMP Canada Safety Bulletin

Volume 22 • Issue 7 • June 22, 2022

Emergency Care Plans Can Save Lives

For individuals who are taking life-saving medications and who require urgent assessment and treatment when ill, emergency care plans can be a key mechanism for sharing medical and medication information with the receiving care team. An incident report shared with ISMP Canada highlights the value of emergency care plans to improve communication among care providers, as well as patients' health outcomes.

INCIDENT DESCRIPTION

A person living with Addison disease was taken to the emergency department (ED) by ambulance because of a brief loss of consciousness and respiratory distress secondary to COVID-19 infection. Upon arrival, they were immediately isolated, as per the institution's pandemic protocols, and their personal supply of hydrocortisone tablets (intended for regular administration) was stored by staff. The patient provided medical documents; however, a timely review did not occur. The patient could not speak without triggering a painful cough and was therefore unable to explain the need for injectable hydrocortisone (as per the medical document). The patient waited for 20 hours in the ED before being seen by a physician and missed 2 scheduled doses of oral hydrocortisone, as well as the needed emergency dose of injectable hydrocortisone.

Following this experience, the patient did not feel confident that hospital protocols would allow timely

care during an adrenal crisis; they felt compelled to manage any future concerns at home. The patient experienced an adrenal crisis 11 more times within the year, and these were treated by calling the specialist and self-injecting hydrocortisone. The community pharmacy team provided clinical guidance when specialists/clinicians were not accessible in the rural region and facilitated access to community-based nursing care.

BACKGROUND

The use of emergency care plans is a key opportunity for improvement in health care. Care plans are useful in both emergency situations and primary care settings to optimize patients' health and treatment outcomes.¹⁻³

- A recent consumer newsletter encouraged
- patients to request a care plan to ensure
- continuity of safe and effective care.⁴

Addison disease is a rare disorder in which the adrenal glands do not produce enough cortisol and, in most cases, aldosterone. Patients with this disease require hormone replacement therapy, such as fludrocortisone or hydrocortisone. In the event of an infection, injury, or missed corticosteroid dose, patients could be at risk for adrenal crisis. Adrenal crisis is a medical emergency that can lead to shock, requiring immediate medical attention, including parenteral administration of hydrocortisone.⁵

An emergency care plan is a succinct document that sets out the type of support a patient should receive during a health crisis. It can be helpful to guide health care providers who may not be familiar with the patient and their medical condition. Emergency care plans are particularly useful for describing the presentation, implications, and treatment of less common diseases, as well as providing emergency contact information. An emergency care plan is developed by the primary care team, together with the patient and family, and is designed to be carried with the patient at all times. Ideally, the emergency care plan is included in health care information systems.

An emergency care plan can be helpful for patients living with serious medical conditions, including cardiac disease, cancer, mental health disorders, endocrine disease, epilepsy, chronic kidney disease requiring dialysis, chronic obstructive pulmonary disease, metabolic diseases, and bleeding disorders, as well as rare disorders. If sudden illness or injury occurs, such patients may find themselves at an unfamiliar hospital that does not have their health records and treatment plans to guide clinicians. Medical identifiers (e.g., tattoo, necklace, bracelet [Figure 1], wallet card) can be helpful in directing emergency care providers to necessary medical and medication information.

FIGURE 1. An example of a medical identifier bracelet.



DISCUSSION

Triage in the ED

Health care professionals are often challenged to triage incoming patients and prioritize those who need immediate medical attention. They may overlook patients whose conditions do not at first appear to be serious.⁶ For example, patients in the early stages of adrenal crisis may present with

nonspecific signs and symptoms.⁵ ED staff may be unfamiliar with the risks associated with delayed treatment for suspected adrenal crisis.

Communication during an emergency situation

In an emergency situation, clear and comprehensive communication can be difficult between a patient and the health care team. For example, patients who are experiencing adrenal crisis may be confused or feeling weak and in pain.⁵ Pandemic-related physical distancing protocols and masking requirements further complicate effective communication and may negatively affect the sharing of information between patients and health care providers.

RECOMMENDATIONS

For primary care providers and specialists

- Develop an emergency care plan for any patient who has a chronic condition that requires specific care and treatment during a health crisis.
 - The emergency care plan should include a description of the health condition, potential signs and symptoms, and specific care needed.
 - The emergency care plan should be succinct and formatted for ease of reading and access to pertinent information.
 - Example templates available from the Canadian Addison Society may be helpful.⁷
- Include the patient in the development of the emergency care plan to ensure they understand their health needs and can actively participate in their own care.
- Advise the patient to wear a medical identifier (e.g., tattoo, necklace, bracelet, wallet card) and share the emergency care plan with family members and/or caregivers.
- Include the emergency care plan in the patient's health record at the hospital that they are most likely to visit (e.g., where their specialist works).

For acute care providers

- If an emergency care plan is provided by the patient, ensure it is copied and prominently

displayed in the patient’s chart (whether paper or electronic) for use by the care team. Review the emergency care plan as soon as possible to assess the need for prioritized treatment. Promptly seek clarification for unfamiliar health conditions and/or medications described in the plan.

- Following the initial ED visit, for patients requiring immediate care during a health crisis, flag the patient’s chart to signal priority triage each time they present to the ED. This proactive approach can help identify patients in need of immediate attention as soon as they arrive at the ED.

CONCLUSION

There is emerging evidence of the value of care plans for communication in the patient’s circle of care, including family members.¹⁻³ Emergency care plans can signal ED staff to provide vulnerable patients with the timely care they require. Technology supports³ (e.g., electronic templates, patient chart alerts) can facilitate increased use and quality of emergency care plans to promote accurate and timely communication of key medical information.

ACKNOWLEDGEMENTS

ISMP Canada gratefully acknowledges the consumers, health care providers, and organizations that report medication incidents for analysis and learning. The expert review of this bulletin by the following individuals (in alphabetical order) is also recognized and appreciated: Carmen Bell BSP, Medication Information Consultant, medSask, Saskatoon, SK; Jannine Bowen MSN, BScN, RN, Advanced Practice Nurse, Remote Communities, Northern Canada; Matthew Chow BScPharm, PharmD, ACPR, Clinical Pharmacist, University Health Network, Toronto, ON; Cheri Deal PhD, MD, Professor Emeritus, Université de Montréal and Pediatric Endocrinologist; Gino Innamorato OCT, MEd, National Researcher-Educator, The Canadian Addison Society.

REFERENCES

1. Mikkola I, Morgan S, Winell K, Jokelainen J, Frittitta L, Heikkala E, et al. Association of personalised care plans with monitoring and control of clinical outcomes, prescription of medication and utilisation of primary care services in patients with type 2 diabetes: an observational real-world study. *Scand J Prim Health Care*. 2022 Feb 11 [cited 2022 Mar 10]. Available from: <https://www.tandfonline.com/doi/full/10.1080/02813432.2022.2036458>
2. Lu E, Chai E. Kidney supportive care in peritoneal dialysis: developing a person-centered kidney disease care plan. *Kidney Med*. 2021 [cited 2022 Mar 10];4(2):100392. Available from: <https://www.sciencedirect.com/science/article/pii/S2590059521002508>
3. Tevaarwerk AJ, Zhang X, Haine J, Norslien K, Henningfield MF, Stietz C, et al. Re-engineering survivorship care plans to support primary care needs and workflow: results from an engineering, primary care and oncology collaborative for survivorship health (EPOCH). *J Cancer Educ*. 2021 Apr 26 [cited 2022 Mar 10];10.1007/s13187-021-02008-z.
4. Taking life-saving medications? Ask for a care plan! *SafeMedicationUse.ca* [newsletter]. 2021 Oct 27 [cited 2022 Mar 10];12(9). Available from: <https://safemedicationuse.ca/newsletter/care-plan.html>
5. Dineen R, Thompson CJ, Sherlock M. Adrenal crisis: prevention and management in adult patients. *Ther Adv Endocrinol Metabol*. 2019 [cited 2022 Mar 10];10:1-12. Available from: <https://pubmed.ncbi.nlm.nih.gov/31223468/>
6. Miller BS, Spencer SP, Geffner ME, et al. Emergency management of adrenal insufficiency in children: advocating for treatment options in outpatient and field settings. *J Investig Med*. 2020 Jan [cited 2022 May 11]; 68(1): 16–25. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6996103/>
7. Emergency letters [online resource]. Etobicoke (ON): Canadian Addison Society; [cited 2021 Oct 24]. Available from: <http://www.addisonsociety.ca/emergency-letters.html>

Key Findings from a Death Investigation

Acetaminophen Overdose: Managing a Duplication Error

ISMP Canada participated in a review of a postsurgical death from acute liver failure due to acetaminophen overdose in hospital. Investigation showed that for more than 2 days, the patient had received doses of acetaminophen above the recommended daily maximum of 4 g/day. A key contributing factor was the existence of 2 separate orders for acetaminophen, prepared by different prescribers: the first entered at the time of hospital admission, and the second after the patient's surgery (i.e., 2 days later). Laboratory findings and the clinical presentation shortly before the patient's death were consistent with acetaminophen overdose.

Key Findings

Review of this incident identified missed opportunities for prevention, detection, and resolution of a duplicate order.

- Two prescribers each entered an acetaminophen order, one before and the other after the patient's surgery. The hospital had a computerized prescriber order entry system (CPOE); however, it is unknown whether the CPOE presented alerts relating to active duplicate therapy. Typically, in hospitals with CPOE, a pharmacist reviews and validates all orders; it is unknown whether such a review occurred for this patient.
- Some nurses noticed the duplicate orders for acetaminophen and did not administer doses that they interpreted as apparent duplicates; however, documentation did not indicate if the duplicate orders were brought to the attention of a physician, a pharmacist, or other nurses. Consequently, the error went unnoticed by other staff members, who administered acetaminophen for both orders within short intervals.
- The hospital used electronic medication administration records (eMARs); however, it is unclear whether the eMAR system could identify duplicate therapy or excessive doses.

Recommendations

- Immediately communicate medication concerns, such as duplicate orders, to the prescriber or a pharmacist to ensure timely intervention and resolution, regardless of when the concern is identified.
- Standardize the medication review and reconciliation processes at all transitions of care, including postoperatively, to ensure appropriate medication management, including identification of duplicate orders.
- Optimize alerts within CPOE and pharmacy software to capture and flag duplicate orders and excessive doses, and to support patient assessment for dosage reduction.¹
- Display maximum daily recommended dose of acetaminophen in health care information systems (e.g., CPOE, eMAR). Utilize eMAR technology to calculate 24-hour acetaminophen intake from all sources (e.g., combination products, as-needed orders).

Presentation

The key findings and recommendations from this death investigation involving acetaminophen overdose were presented at the Med Safety Exchange in May 2022. The recording of this 13-minute presentation is available here: <https://www.youtube.com/watch?v=zPWzks6cVSg&t=185s>

Reference

1. Acetaminophen: preventing harm through safe use. ISMP Can Saf Bull. 2017 [cited 2022 Jan 28];17(4):1-5. Available from: <https://www.ismp-canada.org/download/safetyBulletins/2017/ISMPCSB2017-04-Acetaminophen.pdf>

ISMP Canada's consumer reporting program SafeMedicationUse.ca is aware of harmful errors related to accidental selection of the wrong cannabis product online, delivery of an incorrect cannabis product, and use of the wrong product at home. Tips for consumers to prevent these errors were highlighted in a recent SafeMedicationUse.ca consumer newsletter. Learning for health care providers and industry is shared here.

RECOMMENDATIONS

Physician and Nurse Practitioner Prescribers

- Discuss the following topics during consultation with patients about use of cannabis for medical purposes. It may be helpful to capture some of this information on the patient's medical authorization document to help in the selection of products:
 - Route of administration (e.g., oral, inhalation, topical)
 - Form (e.g., ingestible extract [oil, capsules, or spray], dried, edible, topical)
 - Strength (i.e., amount of the cannabinoids delta-9-tetrahydrocannabinol [THC] and cannabidiol [CBD] in the product)
 - Dose (i.e., amount of the product to take each time; titration instructions, if any)
 - Frequency of use (e.g., daily), including timing of administration
 - Special instructions or precautions, as appropriate, to optimize the safe use of cannabis (e.g., information about the use of cannabis by patients with certain medical conditions and other precautions or risks; use of cannabis concurrently with other medications; monitoring of certain parameters and other information for vulnerable subpopulations who may need additional instructions for use [e.g., children, elderly]).
- Develop a monitoring plan, in collaboration with the patient and/or their caregivers.
- Report adverse reactions and cannabis errors to improve the safe use of cannabis for medical purposes:

Suspected adverse reactions

To Health Canada's Canada Vigilance Program:

<https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada/adverse-reaction-reporting/cannabis.html>

Medication errors

To the Canadian Medication Incident Reporting and Prevention System (CMIRPS):

<https://www.cmirps-scdpim.ca/?p=10&lang=en> or an organizational reporting platform

Licence Holders

- Review fulfillment processes to check that orders match the product ordered by the client (e.g., with respect to THC and CBD content and product form).
- Consider opportunities for extra checks in ordering and filling systems to address new orders that do not match previous orders. For example, a message to the client indicating that "a change from your previous order has occurred", could be sent, when appropriate.

The full consumer newsletter is available at:

<https://safemedicationuse.ca/newsletter/downloads/202204NewsletterV13N03-Cannabis.pdf>

Cannabis Resources from Health Canada

Practitioner information:

- <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/information-medical-practitioners/information-health-care-professionals-cannabis-cannabinoids.html>

Consumer information (from the Government of Canada) to share with your patients:

- General cannabis information:
<https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/regulations-support-cannabis-act/consumer-information.html>
- Use of cannabis in adults over 55 years of age:
<https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/health-effects/effects/adults-55-older.html?msclkid=55a44700b6ba11ecbc77b20cb931c8f1>
- How to read a cannabis label:
<https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/personal-use/how-read-understand-cannabis-product-label.html?msclkid=ce8fbca9b6ba11ec8dc331080a79bb97>



The Canadian Medication Incident Reporting and Prevention System (CMIRPS) is a collaborative pan-Canadian program of Health Canada, the Canadian Institute for Health Information (CIHI), the Institute for Safe Medication Practices Canada (ISMP Canada) and Healthcare Excellence Canada (HEC). The goal of CMIRPS is to reduce and prevent harmful medication incidents in Canada.



The Healthcare Insurance Reciprocal of Canada (HIROC) provides support for the bulletin and is a member owned expert provider of professional and general liability coverage and risk management support.



The Institute for Safe Medication Practices Canada (ISMP Canada) is an independent national not-for-profit organization committed to the advancement of medication safety in all healthcare settings. ISMP Canada's mandate includes analyzing medication incidents, making recommendations for the prevention of harmful medication incidents, and facilitating quality improvement initiatives.

Report Medication Incidents

(Including near misses)

Online: www.ismpcanada.ca/report/

Phone: 1-866-544-7672

ISMP Canada strives to ensure confidentiality and security of information received, and respects the wishes of the reporter as to the level of detail to be included in publications.

Stay Informed

To receive ISMP Canada Safety Bulletins and Newsletters visit:

www.ismpcanada.ca/safety-bulletins/#footer

This bulletin shares information about safe medication practices, is noncommercial, and is therefore exempt from Canadian anti-spam legislation.

Contact Us

Email: cmirps@ismpcanada.ca

Phone: 1-866-544-7672

©2022 Institute for Safe Medication Practices Canada.